WT 21-129

# TESTS OF THE AVCO CORPORATION'S COOLED-WALL RE-ENTRY-VEHICLE MODELS IN THE JPL 21-INCH HYPERSONIC WIND TUNNEL

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[redacted]

U. S. Government Agencies and [redacted] Only

Gerald M. Goranson
John J. Minich

Robert E. Covey

Robert E. Covey, *Chief*
*Aerodynamic Facilities Section*

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GROUP 4 Downgraded at 3 year intervals; declassified after 12 years.

JET PROPULSION LABORATORY
CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA, CALIFORNIA

April 30, 1964

~~CONFIDENTIAL~~

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# I. INTRODUCTION

Wind-tunnel Tests 21-129 and 21-129A were tests of the AVCO Corporation, Research and Advanced Development Division (RAD), (Wilmington, Mass.), low-observable re-entry-vehicle models. The purpose of the tests was to obtain surface pressure and temperature distribution data, and also static force and moment data, with model wall cooling. The approximate aerodynamic parameters for the test were Mach No. 6.6 and 9.1, with Reynolds No./in. of $0.037 \times 10^6$ to $0.14 \times 10^6$. The test variables and ranges were angles of attack from -9.5 deg to +20.0 deg, and model wall temperature from -300°F to recovery temperature (i.e., no cooling).

The model configurations were either various apex-angle blunted-tip cones with convex hemispherical bases, or the same cones with cylindrical mid-sections, yielding cone-cylinder-flare configurations. Forces and moments were obtained for the several complete configurations; also, surface pressures were obtained at 30 orifices and surface temperatures were recorded at 13 thermocouple locations for two configurations.

The tests* were conducted at the Jet Propulsion Laboratory (JPL) from December 3 through 14, 1962 and from January 28 through 31, 1963, with AVCO-RAD represented by Mr. G. Chadwick and Mr. M. Degen.

# II. MODEL DESCRIPTION

A typical model is shown in Fig. 1. A more detailed description of the model and components is contained in Ref. 1.

# III. WIND TUNNEL AND INSTRUMENTATION

Reference 2 describes the construction and operating conditions of the 21-in. hypersonic wind tunnel. The wind tunnel has a nominal test-section size of 21 in. square, a Mach range from 5 to 10, a flexible-plate nozzle, and operates with continuous flow. Table 1 presents representative values of the test-section flow parameters for the Mach numbers at which these tests were conducted.

*The symbols used in this Report are defined in the Nomenclature.

A six-component, internal, strain-gage balance was used to measure force-and-moment data. During this phase of the testing, model wall temperatures were read from a Brown thermocouple indicator and recorded as raw data.

During the pressure-temperature data phase of the tests, pressures were recorded by an automatic-switching system which permitted a single transducer to convert all the pressures to a digitized signal. Temperatures were recorded by an automatic-switching system which converted all thermocouple outputs to a digitized signal.

## IV. TEST PROCEDURE

Prior to actual test operations, measurements were made to determine the position of the model, the deflection constants, and the balance tares. During the test, data points were obtained at successive values of angle of attack or model wall temperature. These data points were plotted vs angle of attack, or the tabulations were monitored, and any data which appeared questionable were checked before the conclusion of the run. At least one data point was checked even if all data appeared correct.

## V. DATA REDUCTION

The force-and-moment data were reduced to dimensionless coefficients in coordinates specified by AVCO-RAD. The coefficients were obtained as follows:

$$\text{force coefficient} = \frac{\text{force}}{qA}$$

$$\text{moment coefficient} = \frac{\text{moment}}{qAd}$$

where

$q$ = free-stream dynamic pressure (psia)

$A$ = reference area* ($in.^2$)

$d$ = reference length (in.)

and the point about which the moments were measured was $r^*$ in. from the model base, on the model centerline.

The pressure and temperature data were reduced to dimensionless coefficients and ratios as specified by AVCO-RAD. These coefficients and ratios were obtained as follows:

$$\text{pressure coefficient} = \frac{p_w - p}{q}$$

$$\text{pressure ratio} = \frac{p_w}{p_t'}$$

$$\text{temperature ratio} = \frac{T_w}{T_t}$$

where

$p_w$ = surface pressure at a model orifice (psia)

$p$ = free-stream static pressure (psia)

$p_t'$ = total pressure behind a normal shock wave (pitot pressure) (psia)

$T_w$ = surface temperature at a model thermocouple (°R)

$T_t$ = stream total temperature (°R)

$q$ = free-stream dynamic pressure (psia)

*The reference lengths and areas are shown in Table 2.

All data were reduced on a digital computer by a standardized series of formulas as indicated in Ref. 3. The repeatability of the force coefficient data is indicated in Table 3.

The force coefficients are defined in the Nomenclature, and the sign conventions are shown in Fig. 2.

## VI. RESULTS

The results of these tests have been reduced to dimensionless coefficients. The pressure and temperature data have been presented to AVCO-RAD under separate cover; the force data are presented in Plot Series 1a through 33e. The plot schedule is included in Table 4.

It should be noted that, although repeatability appeared reasonable in all cases, the validity of the data for runs 12 through 17, 19, and 20 is doubtful. An examination of the plotted data will show this fact. No explanation exists, at the present, as to the apparent inconsistencies in these data. No attempt was made in this Report to interpret further the results.

# NOMENCLATURE

## Aerodynamic Coefficients and Parameters

| | |
|---|---|
| $C_C$ | chord-force coefficient (CC)* |
| $C_D$ | drag-force coefficient (CD)* |
| $C_L$ | lift-force coefficient (CL)* |
| $C_{Mcg}$ | pitching-moment coefficient (CM)* |
| $C_N$ | normal-force coefficient (CN)* |
| r | distance from model base to center of gravity, in. |
| $\alpha$ | angle of attack (ALPHA)* |

*The nomenclature in parentheses represents that used on plots.

## REFERENCES

1. Research and Advanced Development Division, AVCO Corporation. Pretest Report for the Jet Propulsion Laboratory 21-In. Hypersonic Wind Tunnel. Wilmington, Massachusetts, AVCO, October 9, 1962. (LORV Pretest Report No. 1, RAD Document Number 62-2019) CONFIDENTIAL

2. Jet Propulsion Laboratory, California Institute of Technology. Wind-Tunnel Facilities of the Jet Propulsion Laboratory. Pasadena, California, JPL, April 18, 1961 (Rev. January 1, 1962). (Technical Release No. 34-257) UNCLASSIFIED

3. Jet Propulsion Laboratory, California Institute of Technology. Standard Data-Reduction Procedures for Use in the JPL Wind Tunnels. Pasadena, California, JPL, June 8, 1962. (Internal Memorandum JPL WT G-T14) UNCLASSIFIED

Table 1. Test-section flow parameters

| Parameter | Mach Number | |
|---|---|---|
| | 6.6 | 9.1 |
| Static pressure (psia) | 0.092<br>0.056 | 0.032<br>0.027<br>0.017<br>0.009 |
| Stagnation pressure (psia) | 262.0<br>159.0 | 685.0<br>587.0<br>372.0<br>192.0 |
| Dynamic pressure (psia) | 2.80<br>1.70 | 1.81<br>1.55<br>0.95<br>0.52 |
| Reynolds number (per in. x $10^{-6}$) | 0.12<br>0.07 | 0.13<br>0.11<br>0.07<br>0.04 |

Table 2. Reference areas and lengths

| General configuration designation* | Reference length (in.) | Reference area (in.$^2$) | r (in.) |
|---|---|---|---|
| Cooled model: | | | |
| M4 | 2.77 | 6.02 | 7.37 |
| CCF8 | 4.00 | 12.57 | 7.05 |
| CCF12 | ↓ | ↓ | 6.73 |
| C12 | ↓ | ↓ | 5.75 |
| Hot model: | | | |
| CCF8 | 3.42 | 9.19 | 6.96 |
| CCF12 | 4.00 | 12.57 | 6.73 |
| CCF16 | ↓ | ↓ | 6.51 |
| C8 | ↓ | ↓ | 7.60 |
| C12 | ↓ | ↓ | 5.75 |
| C16 | ↓ | ↓ | 4.83 |

*See Table 4 for specific configurations. An example of a specific configuration designation is as follows:

CCF8A, or C8B

where

| | |
|---|---|
| CCF | represents cone-cylinder-flare model. |
| C | (by itself) represents conical model. |
| 8 | designates both the cone and flare angles, viz., 8, or 12, or 16 deg for configurations tested. |
| A | represents a conical nose with small bluntness. |
| B | represents a conical nose with large bluntness. |

Both the cone-cylinder-flare and conical models had spherical aft ends, as shown in Fig. 1.

Table 3. Coefficient repeatability

| Mach No. | Coefficient* | | | | |
|---|---|---|---|---|---|
| | $C_{Mcg}$ | $C_N$ | $C_C$ | $C_L$ | $C_D$ |
| 6.6 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 |
| 9.1 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 |

*Based upon the reference areas and lengths of Table 2.

Table 4. Plot schedule

| Plot No. | Run No. | Configuration | Mach No. | Re/in. x $10^{-6}$ | $T_w/T_t$ (°R) | Variable |
|---|---|---|---|---|---|---|
| 1 | 36 | C8A | 6.6 | 0.076 | Adiabatic | $\alpha$ |
| 1 | 39 | C8B | ↓ | ↓ | ↓ | ↓ |
| 2 | 42 | CCF8A | | | | |
| 2 | 45 | CCF8B | | | | |
| 3 | 48 | C16A | | | | |
| 3 | 51 | C16B | | ↓ | | |
| 4 | 35 | C8A | | 0.12 | | |
| 4 | 38 | C8B | | ↓ | | |
| 5 | 41 | CCF8A | | | | |
| 5 | 44 | CCF8B | | | | |
| 6 | 47 | C16A | | | | |
| 6 | 50 | C16B | ↓ | ↓ | | |
| 7 | 61 | C8A | 9.1 | 0.14 | | |
| 7 | 63 | C12A | ↓ | ↓ | | |
| 8 | 52 | C16B | | | | |
| 9 | 64 | CCF8A | | | | |
| 9 | 65 | CCF8B | | | | |
| 10 | 58 | CCF12A | | | | |
| 10 | 60 | CCF12B | | | | |
| 11 | 54 | CCF16A | | | | |
| 11 | 56 | CCF16B | ↓ | ↓ | ↓ | ↓ |
| 12 | 25-28 | CCF8A | 6.6 | 0.069 | 0.10 | $\alpha$, $T_w/T_t$ |
| 12 | 29-32 | CCF8B | ↓ | ↓ | 0.10 | ↓ |
| 13 | 25-28 | CCF8A | | | 0.15 | |
| 13 | 29-32 | CCF8B | | | 0.15 | |
| 14 | 25-28 | CCF8A | | | 0.20 | |
| 14 | 29-32 | CCF8B | | | 0.20 | |
| 15 | 25-28 | CCF8A | | | 0.30 | |
| 15 | 29-32 | CCF8B | ↓ | ↓ | 0.30 | ↓ |

Table 4 (Cont'd)

| Plot No. | Run No. | Configuration | Mach No. | Re/in. x $10^{-6}$ | $T_w/T_t$ (°R) | Variable |
|---|---|---|---|---|---|---|
| 16 | 73-76 | CCF12A | 9.1 | 0.12 | 0.126 | $\alpha$, $T_w/T_t$ |
| 16 | 79 | CCF12B | ↓ | ↓ | 0.126 | ↓ |
| 17 | 73, 75 76 | CCF12A | | | 0.15 | |
| 17 | 79-81 | CCF12B | | | 0.15 | |
| 18 | 74-77 | CCF12A | | | 0.20 | |
| 18 | 79-81 | CCF12B | | | 0.20 | |
| 19 | 73-77 | CCF12A | | | 0.30 | |
| 19 | 79-81 | CCF12B | | | 0.30 | |
| 20 | 82-85 | CCF8A | | | 0.126 | |
| 21 | 82-85 | ↓ | | | 0.15 | |
| 22 | 82-85 87 | | | | 0.20 | |
| 23 | 82-87 | | ↓ | ↓ | 0.30 | ↓ |
| 24 | 12 | CCF8 | 9.0 | 0.14 | Adiabatic | $\alpha$ |
| 25 | 13 | CCF8 | ↓ | ↓ | ↓ | ↓ |
| 26 | 15 | C12 | | | | |
| 27 | 17 | C8 | | ↓ | ↓ | ↓ |
| 28 | 19 | C16 | | | | |
| 29 | 3-9 | M4 | | 0.12 | 0.10 0.16 0.22 | $\alpha$, $T_w/T_t$ |
| 30 | 21-24 30, 31 | CCF8 | | 0.14 | 0.28 0.34 0.40 | ↓ |
| 31 | 25-29 | ↓ | ↓ | ↓ | ↓ | |
| 32 | 32-37 | | 6.5 | | | |
| 33 | 38-42 | | 6.5 | ↓ | ↓ | ↓ |

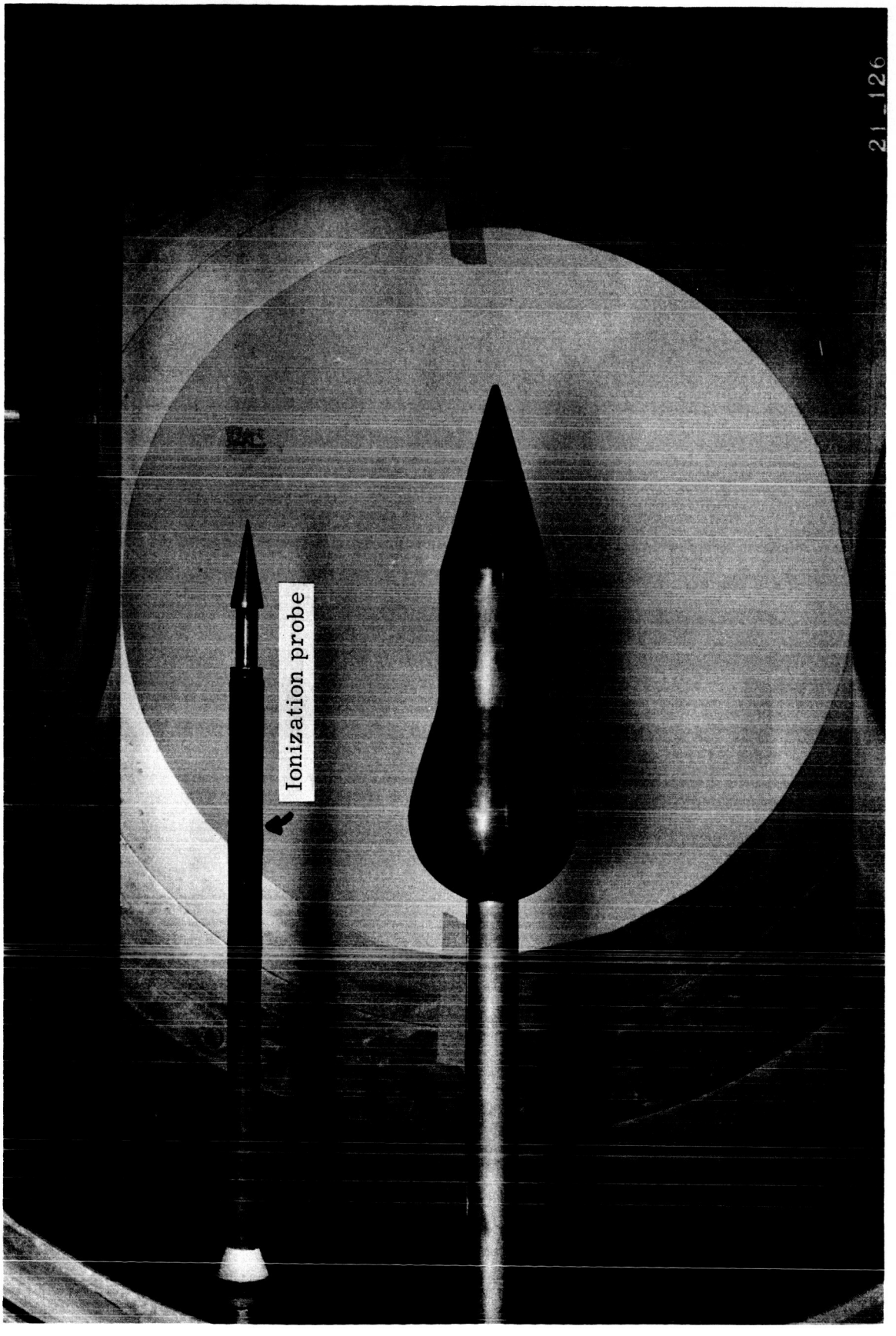
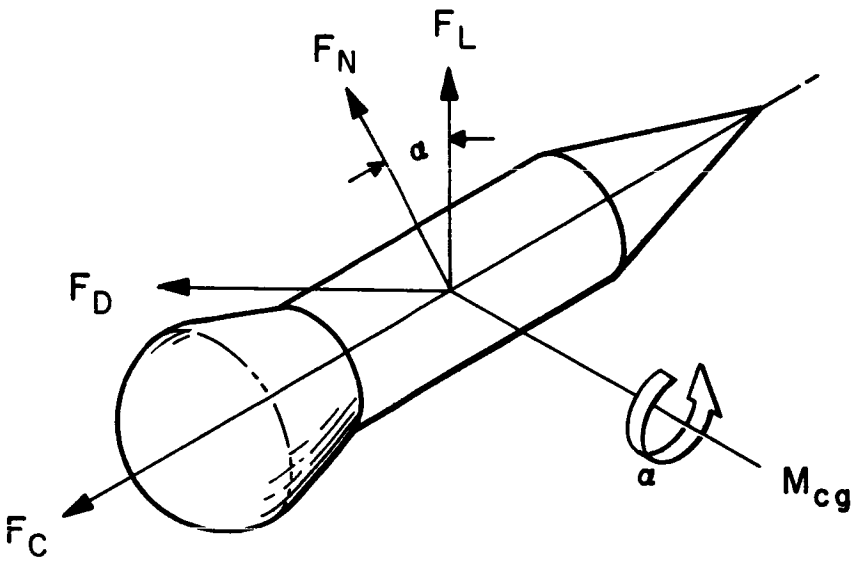


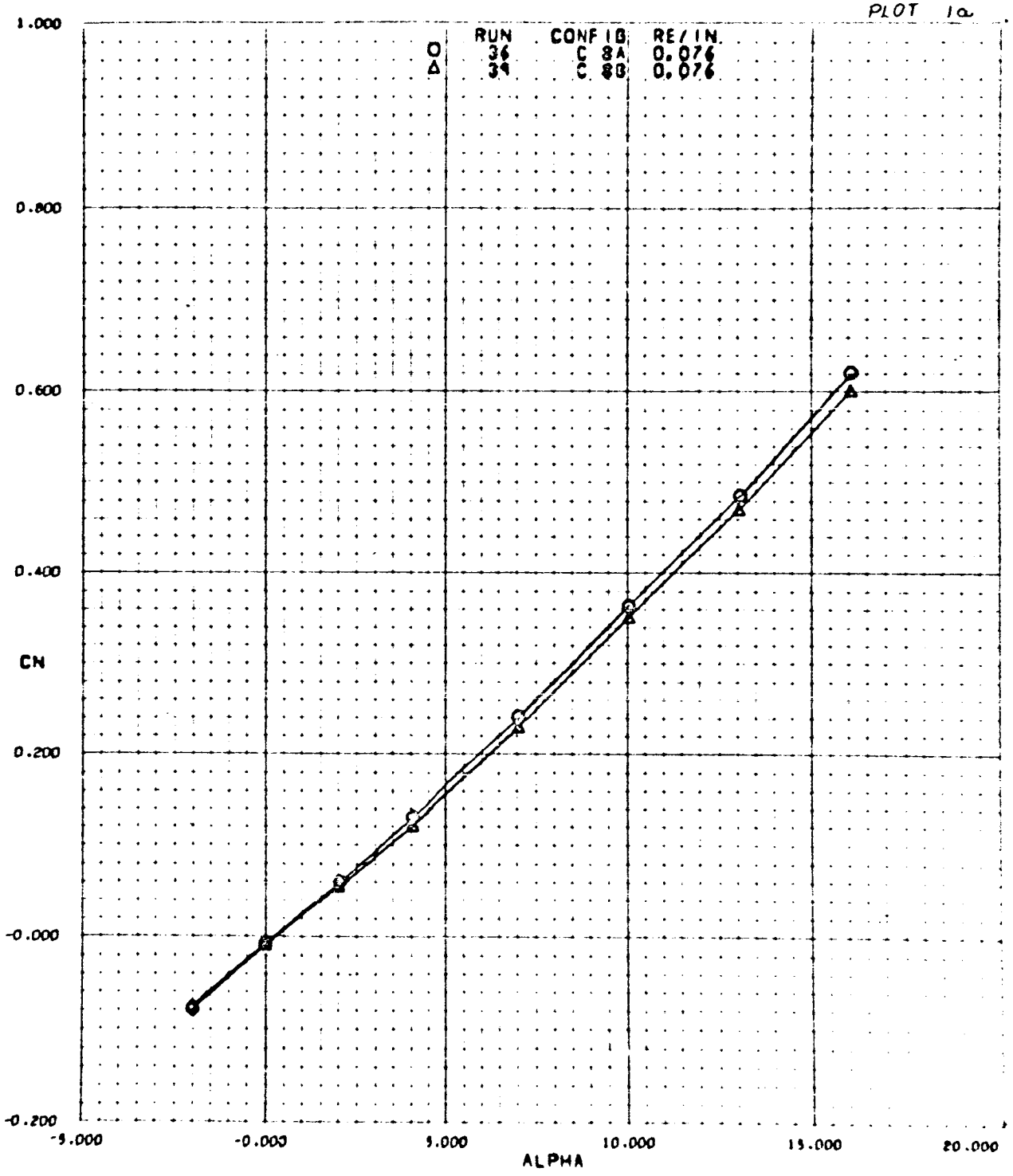

Fig. 1. Typical model installation




NOTE: Arrows indicate positive forces and moment

Fig. 2. Sign conventions

PLOT 1a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Δ 34 C 8B 0.076
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0.600
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-0.200
CN
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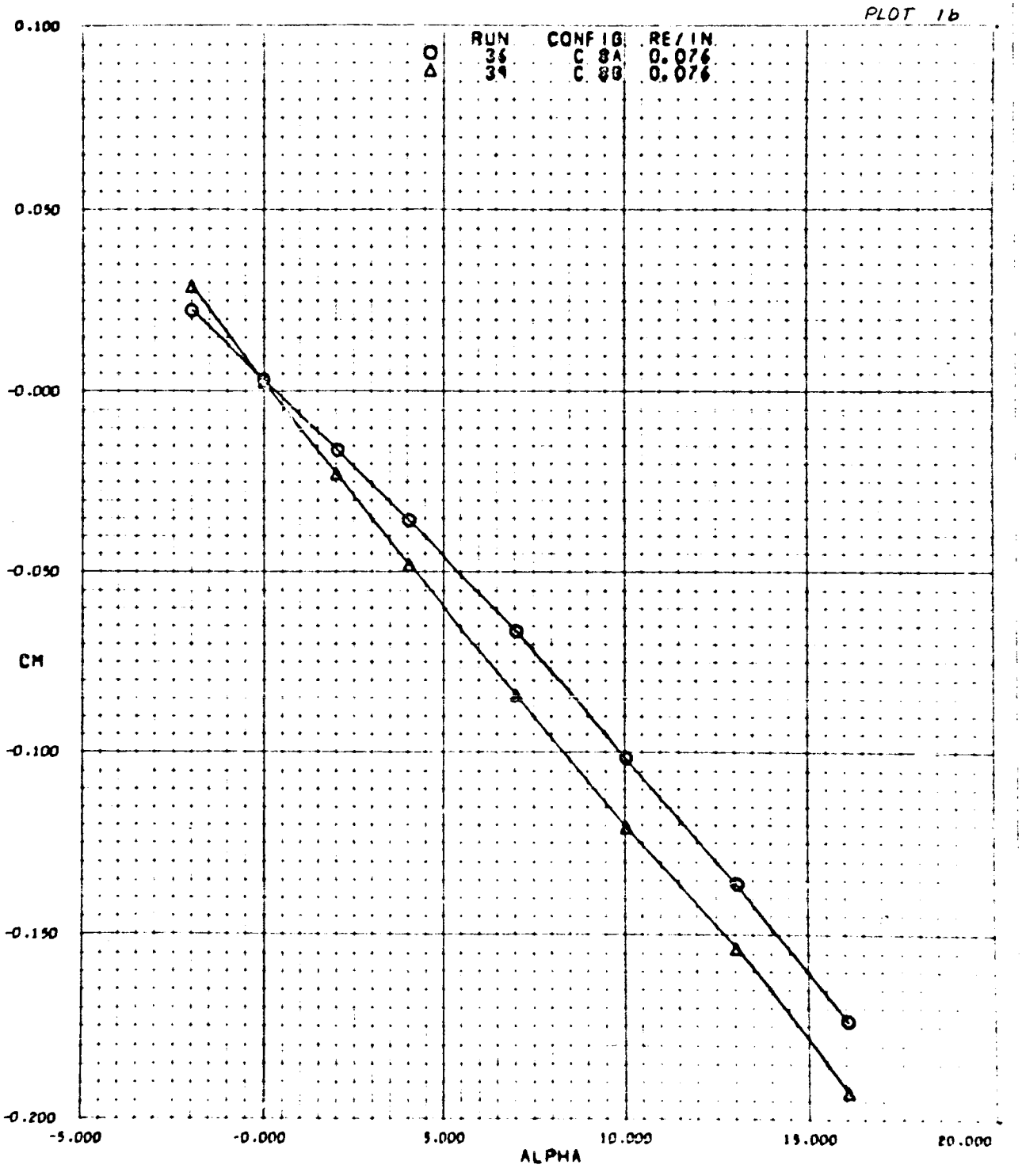
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 16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△ 39 C 8B 0.076
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0.050
-0.000
-0.050
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CM
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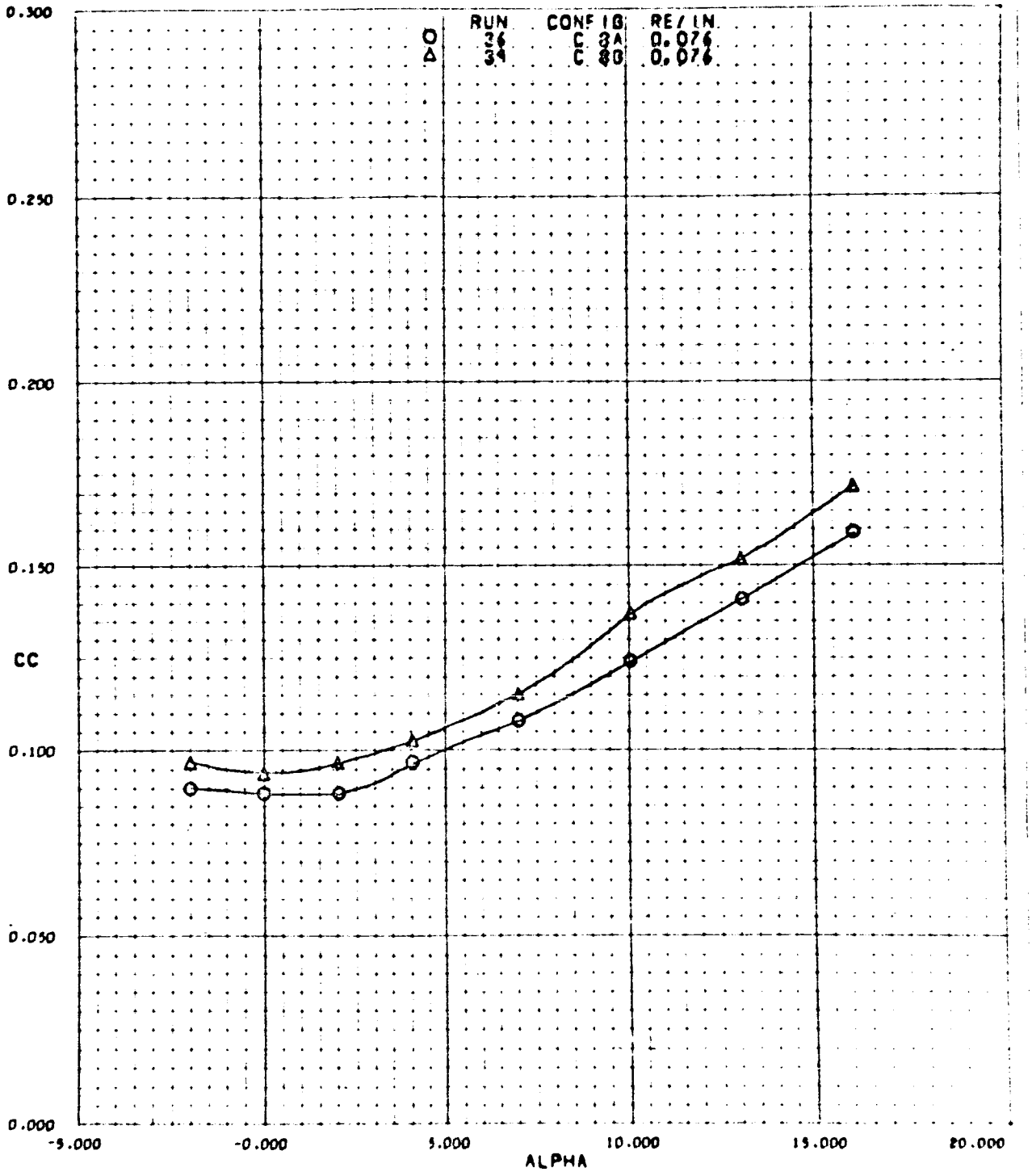
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 1c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Δ 34 C 3D 0.076
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0.200
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CC
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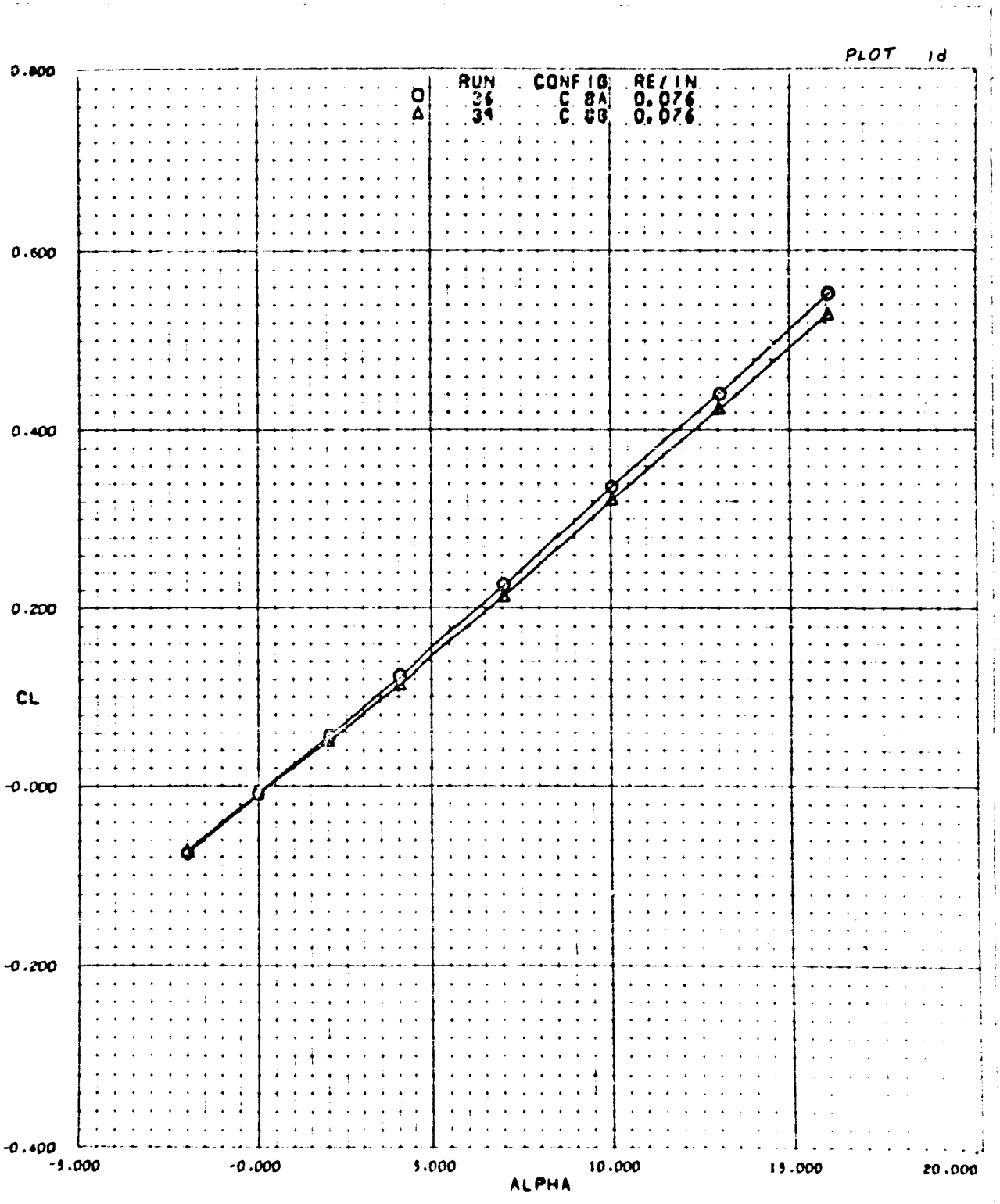
-0.000
5.000
10.000
15.000
20.000
ALPHA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Δ 39 C 8B 0.076
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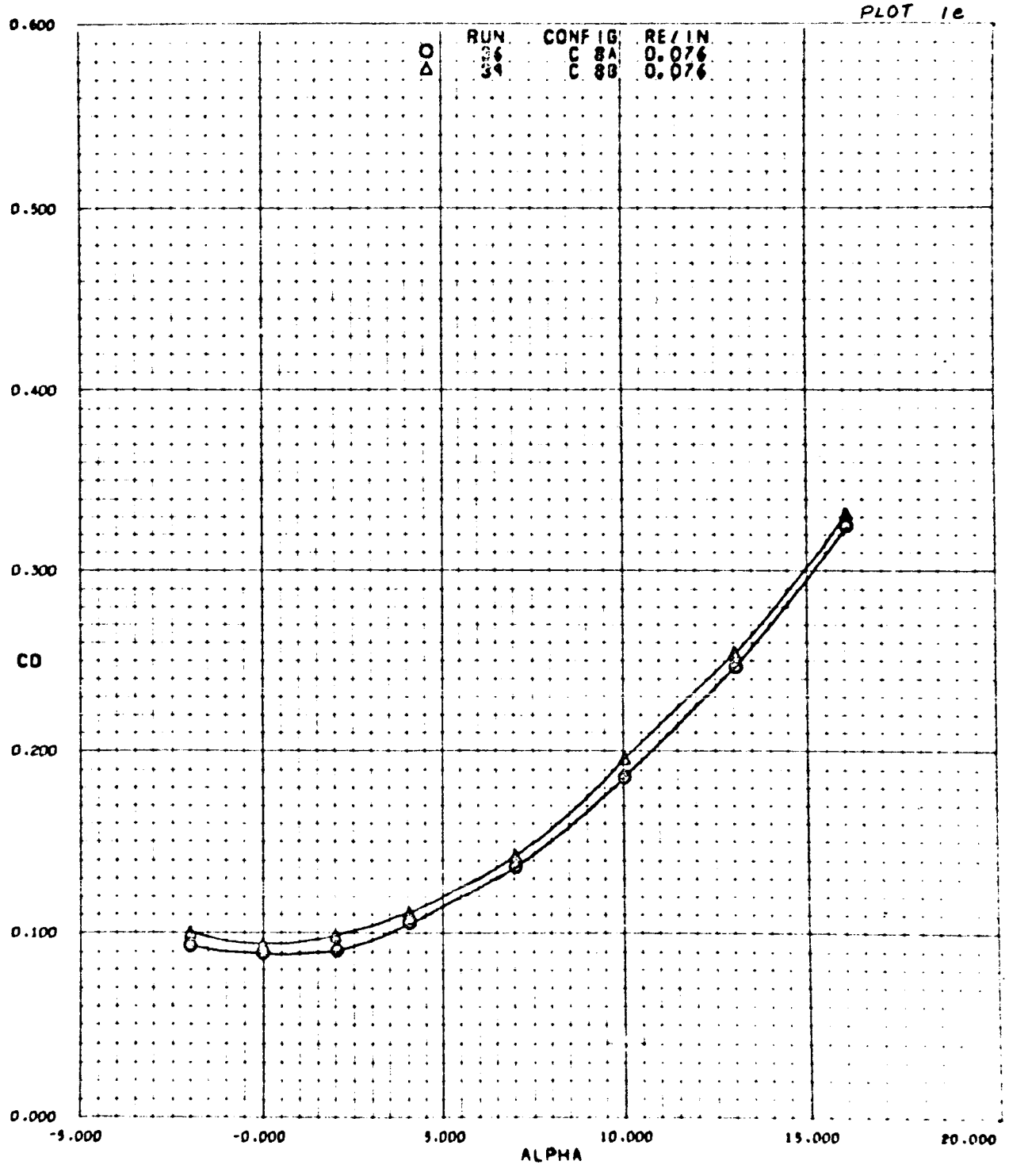
5.000
10.000
15.000
20.000
ALPHA

PLOT 1e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15.000
20.000
ALPHA

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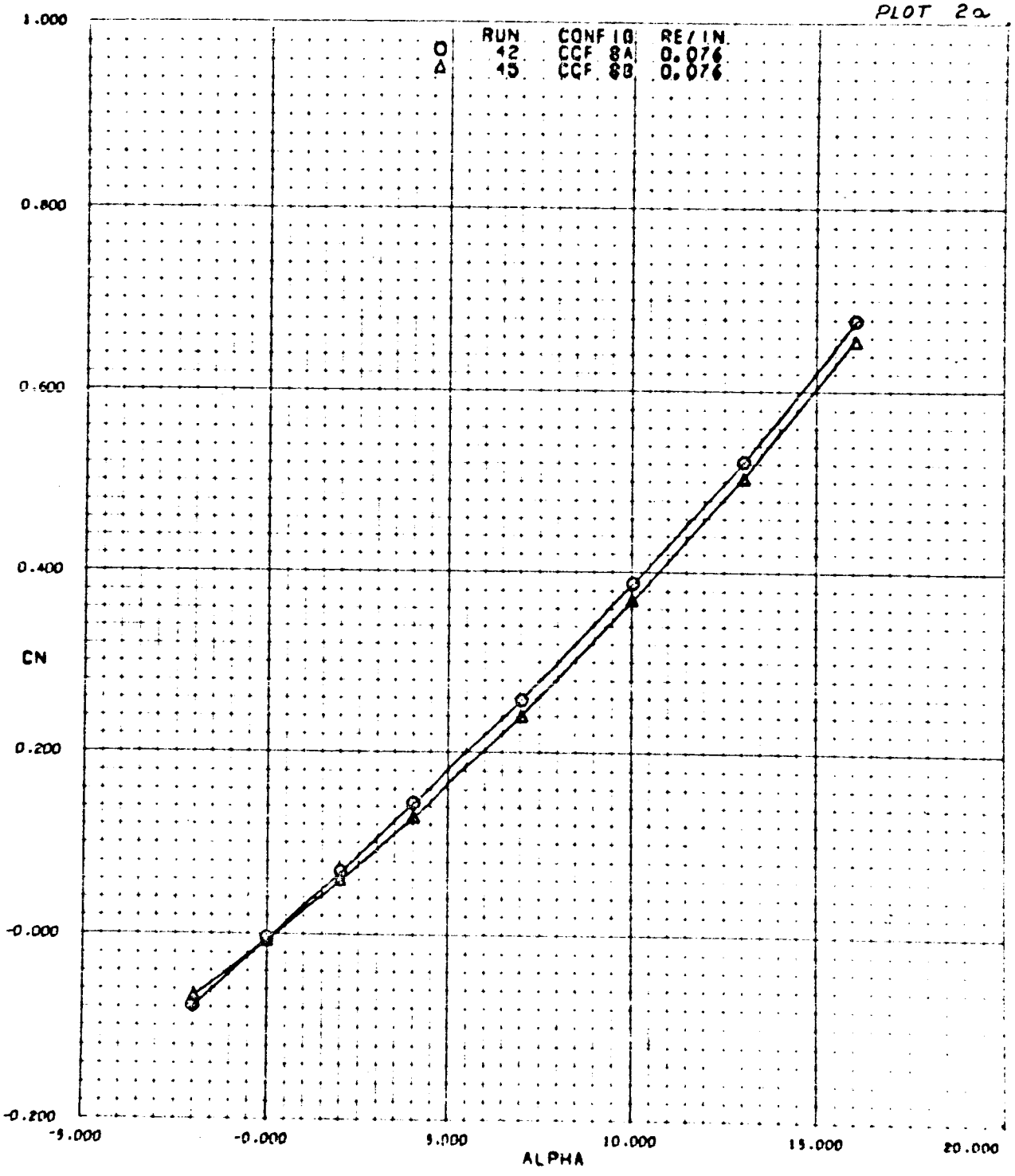
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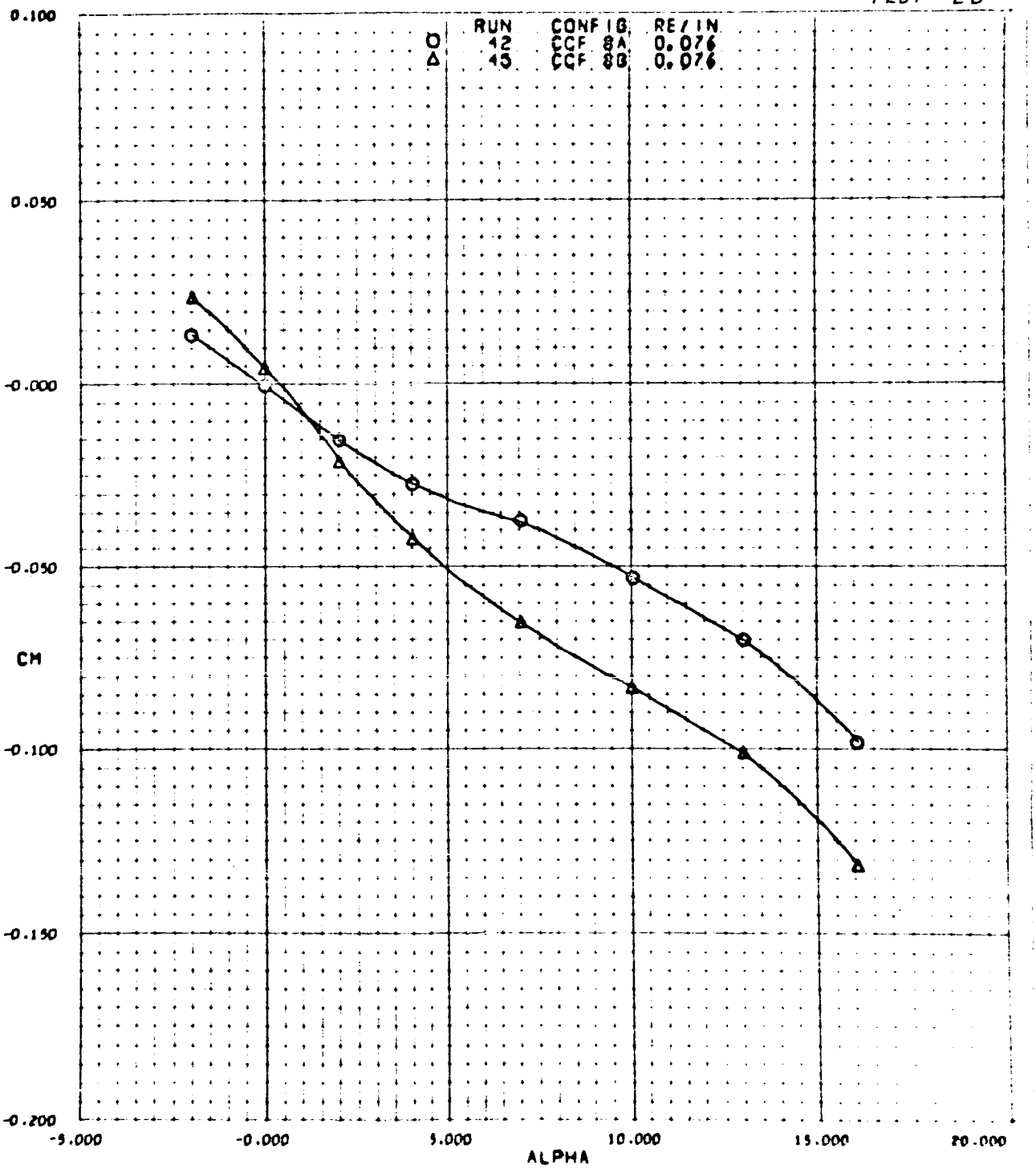
15.000
20.000
ALPHA

PLOT 2b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-0.050
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CM
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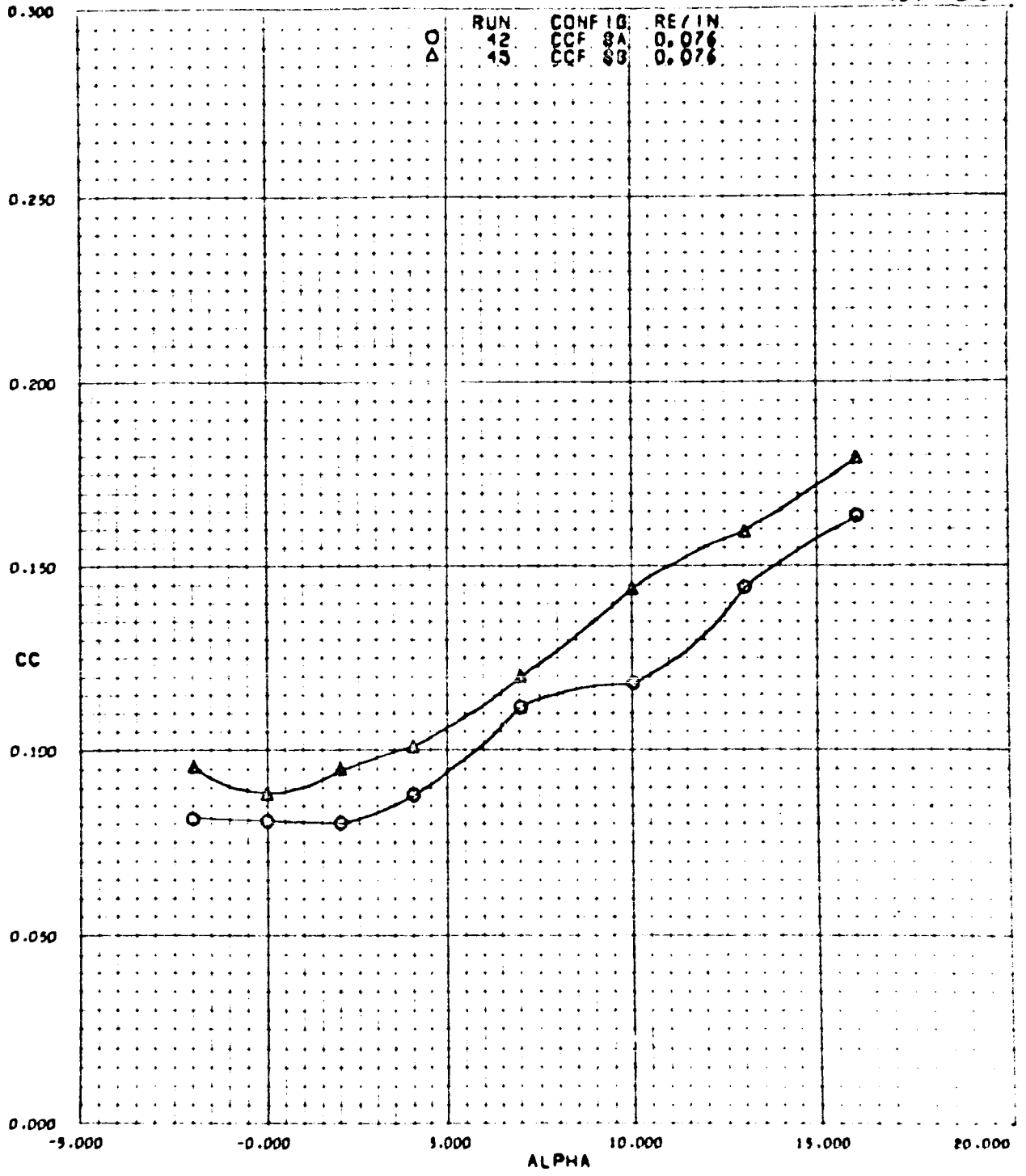
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 2c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CC
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-0.000
5.000
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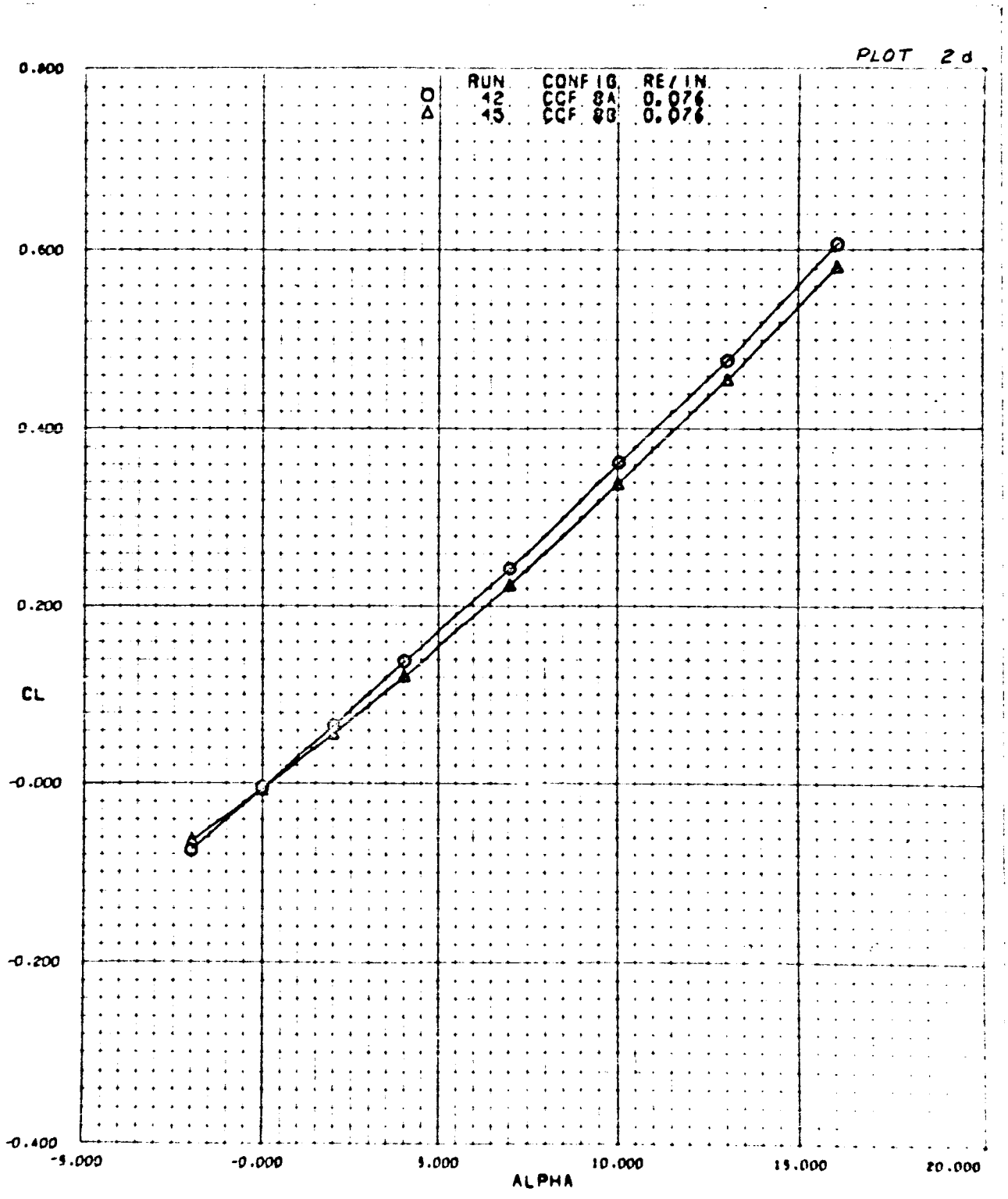
15.000
20.000
ALPHA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Δ 45 CCF 8B 0.076
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0.200
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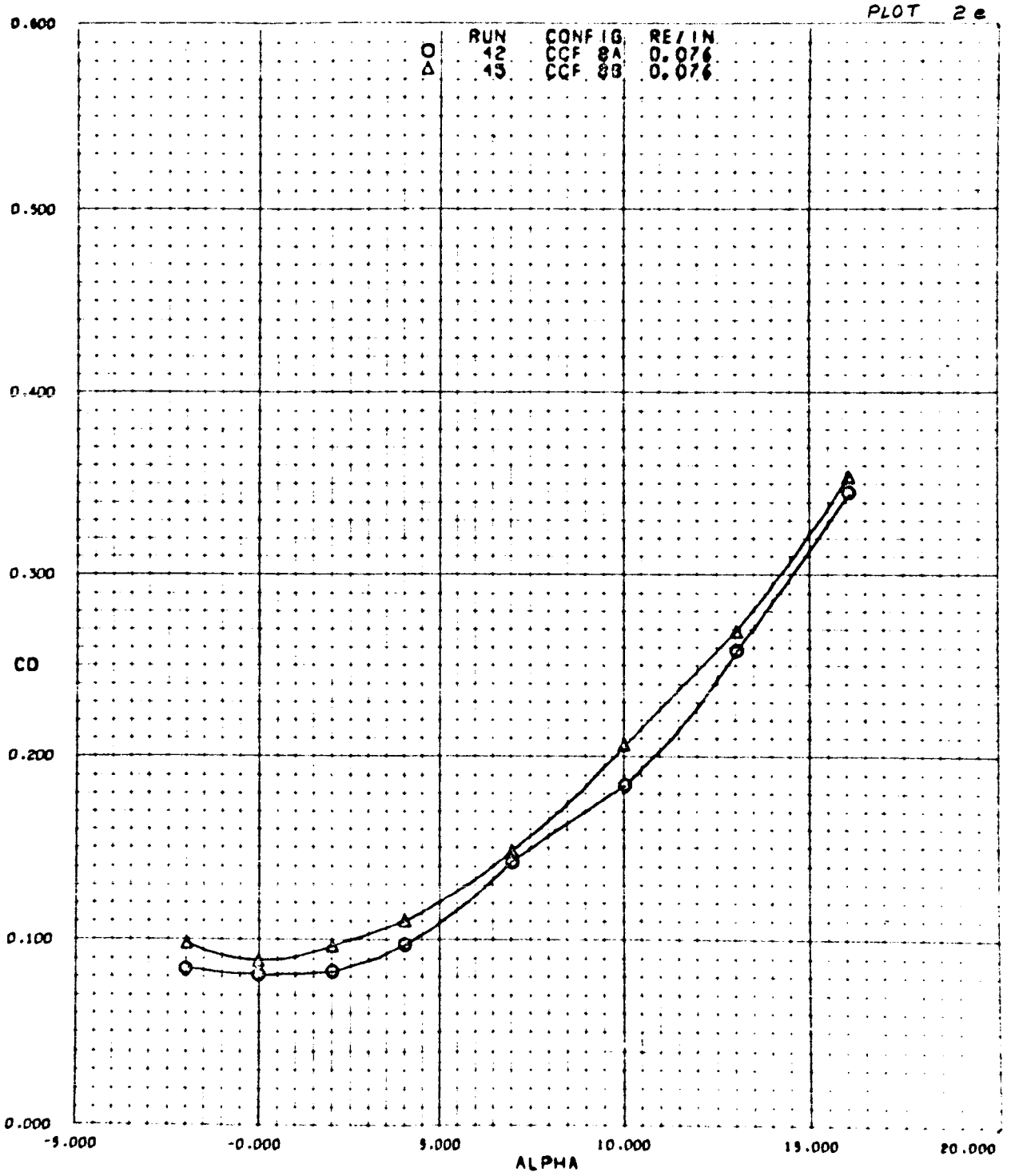
15.000
20.000
ALPHA

PLOT 2e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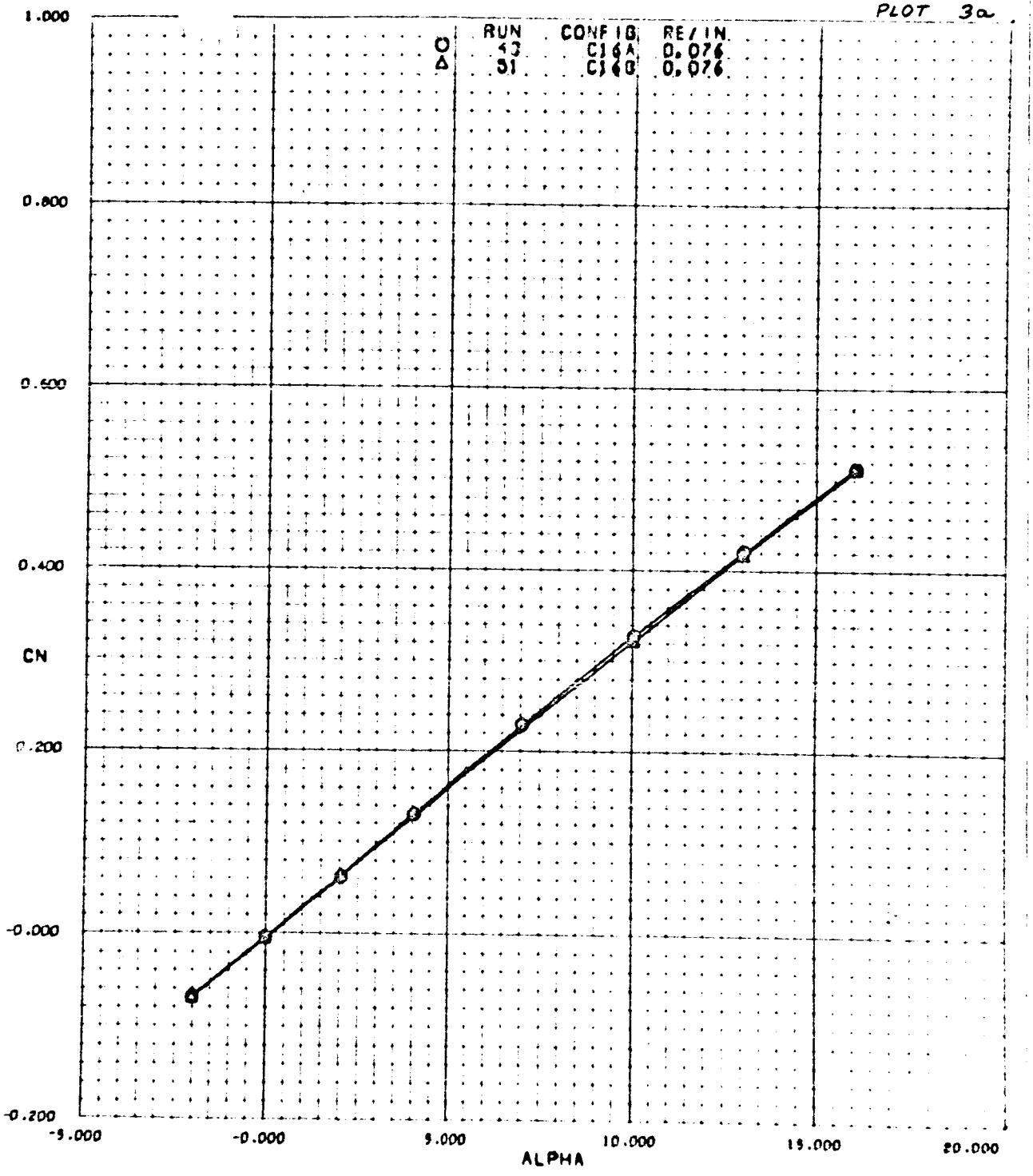
5.000
10.000
15.000
20.000
ALPHA

10

PLOT 3a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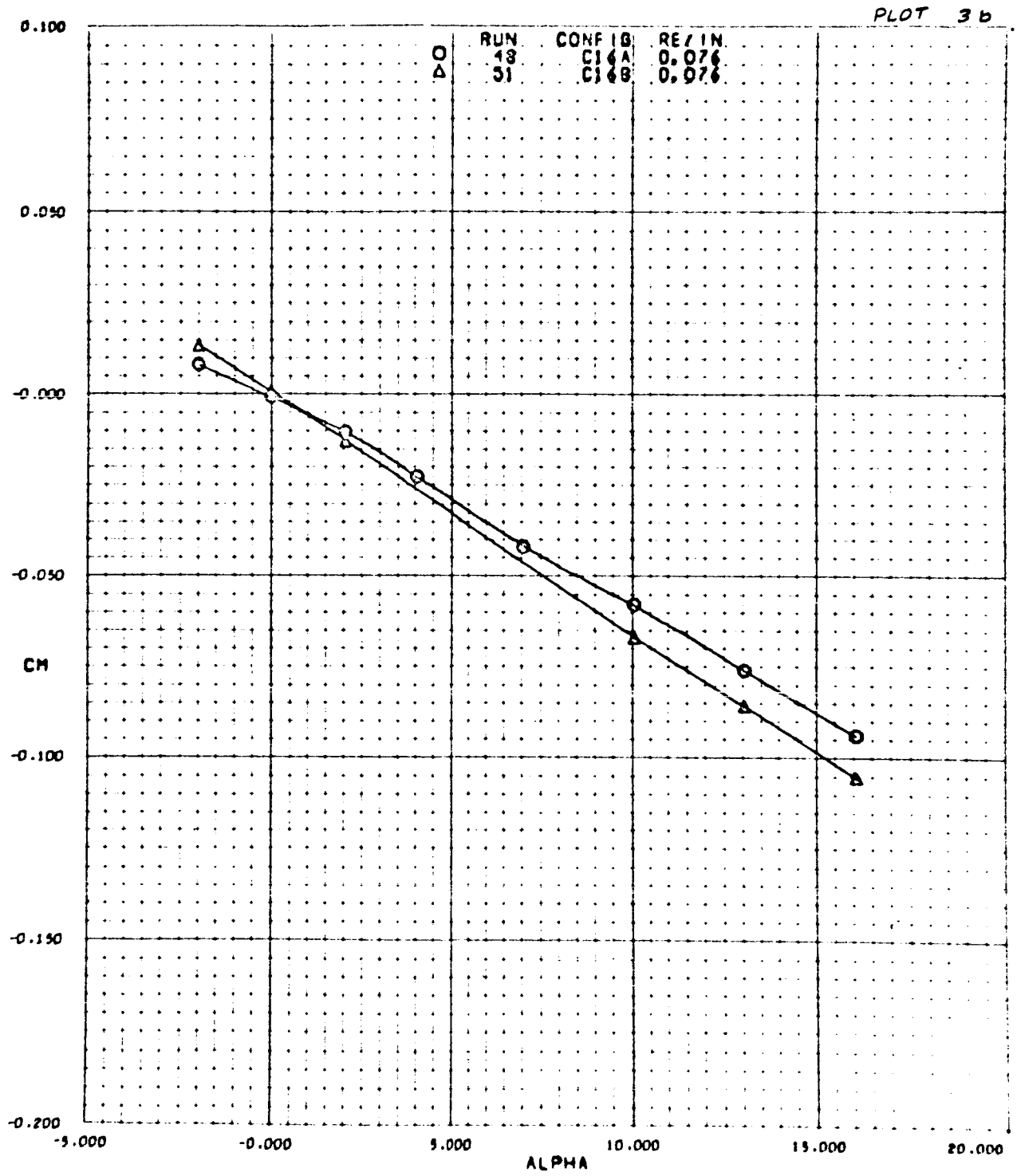
5.000
10.000
15.000
20.000
ALPHA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-0.000
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CM
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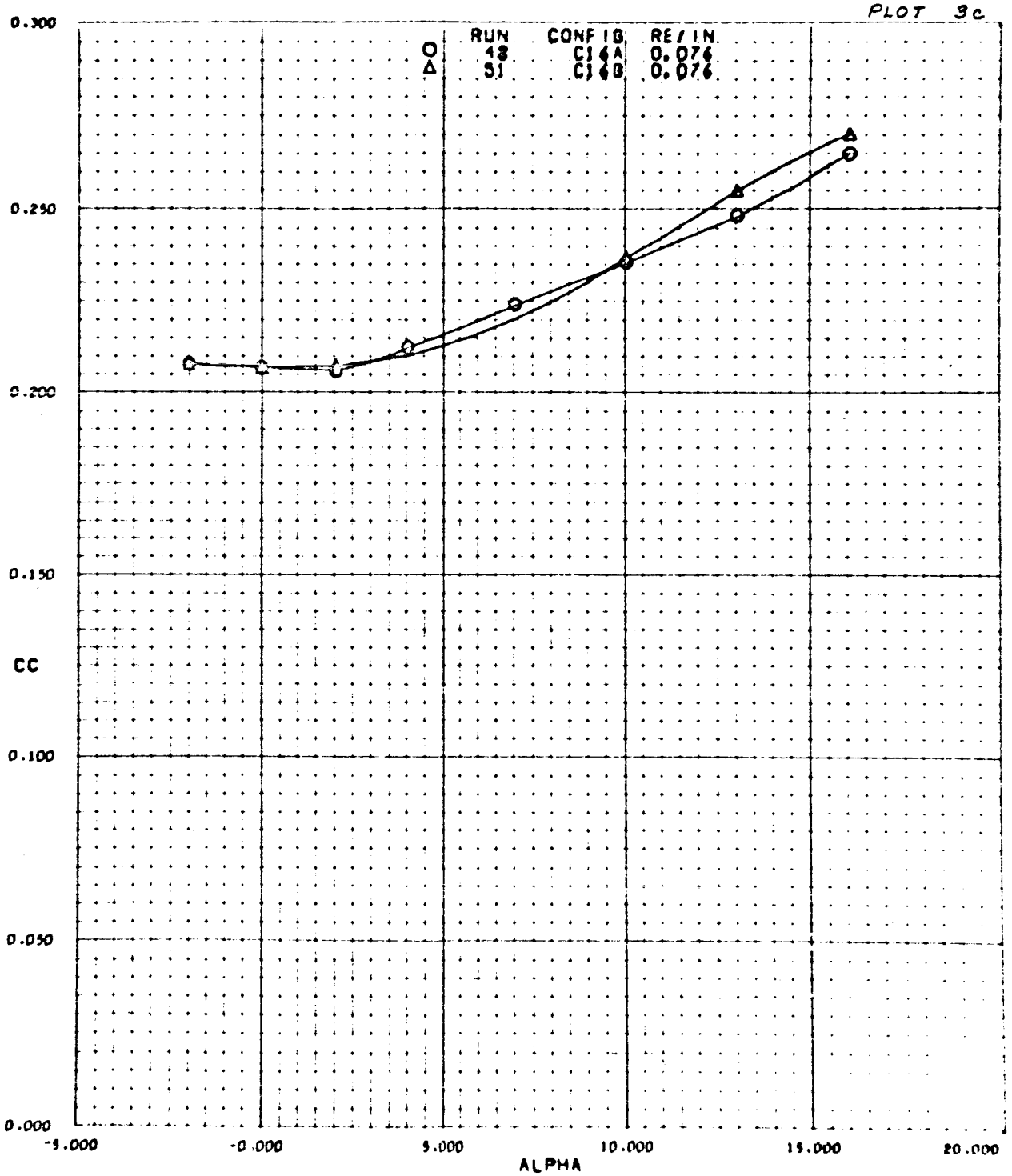
-0.000
5.000
10.000
15.000
20.000
ALPHA

12

PLOT 3c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51 C1&B 0.076
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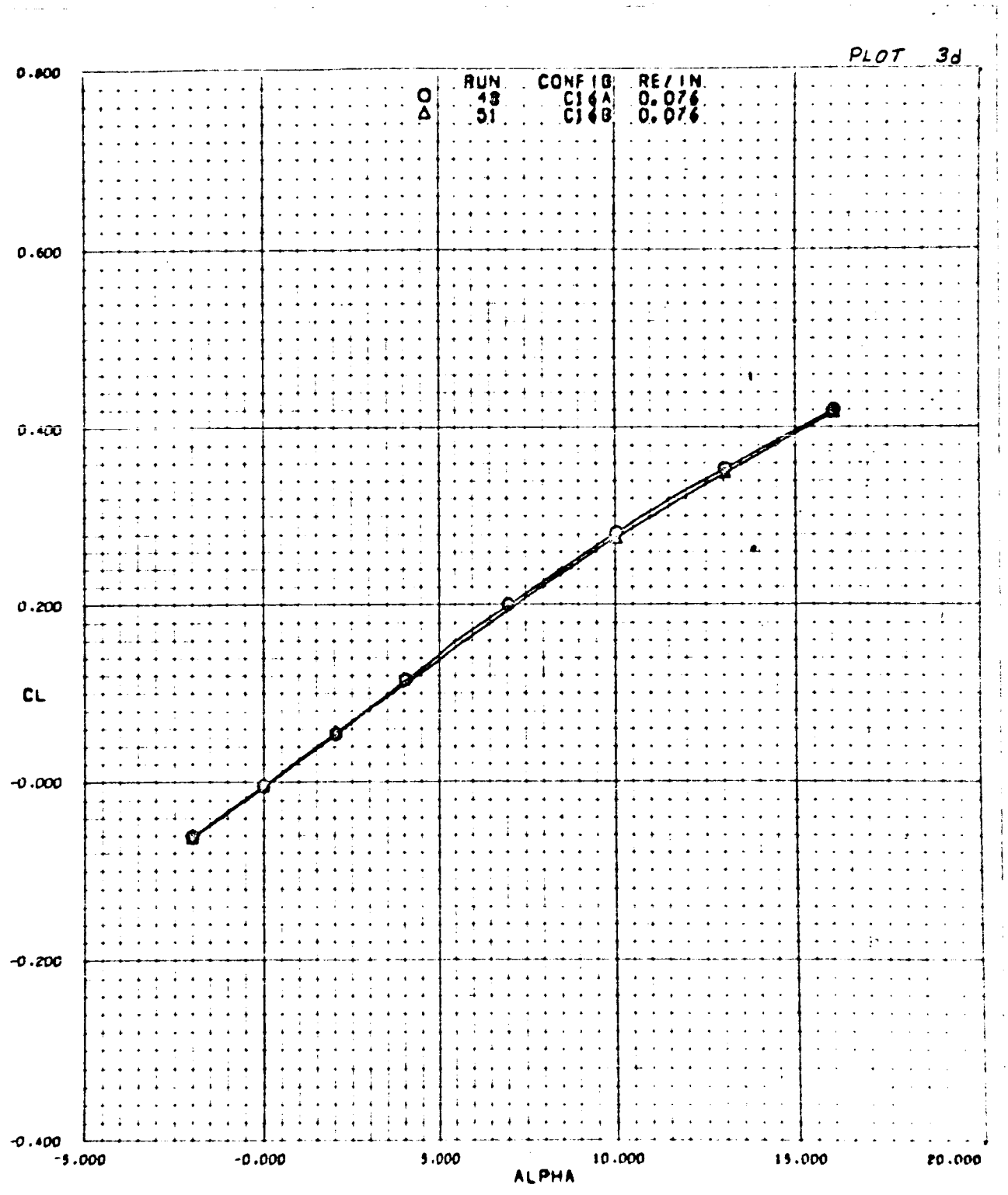
10.000
15.000
20.000
ALPHA

13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Δ 51 C16B 0.076
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0.400
0.200
CL
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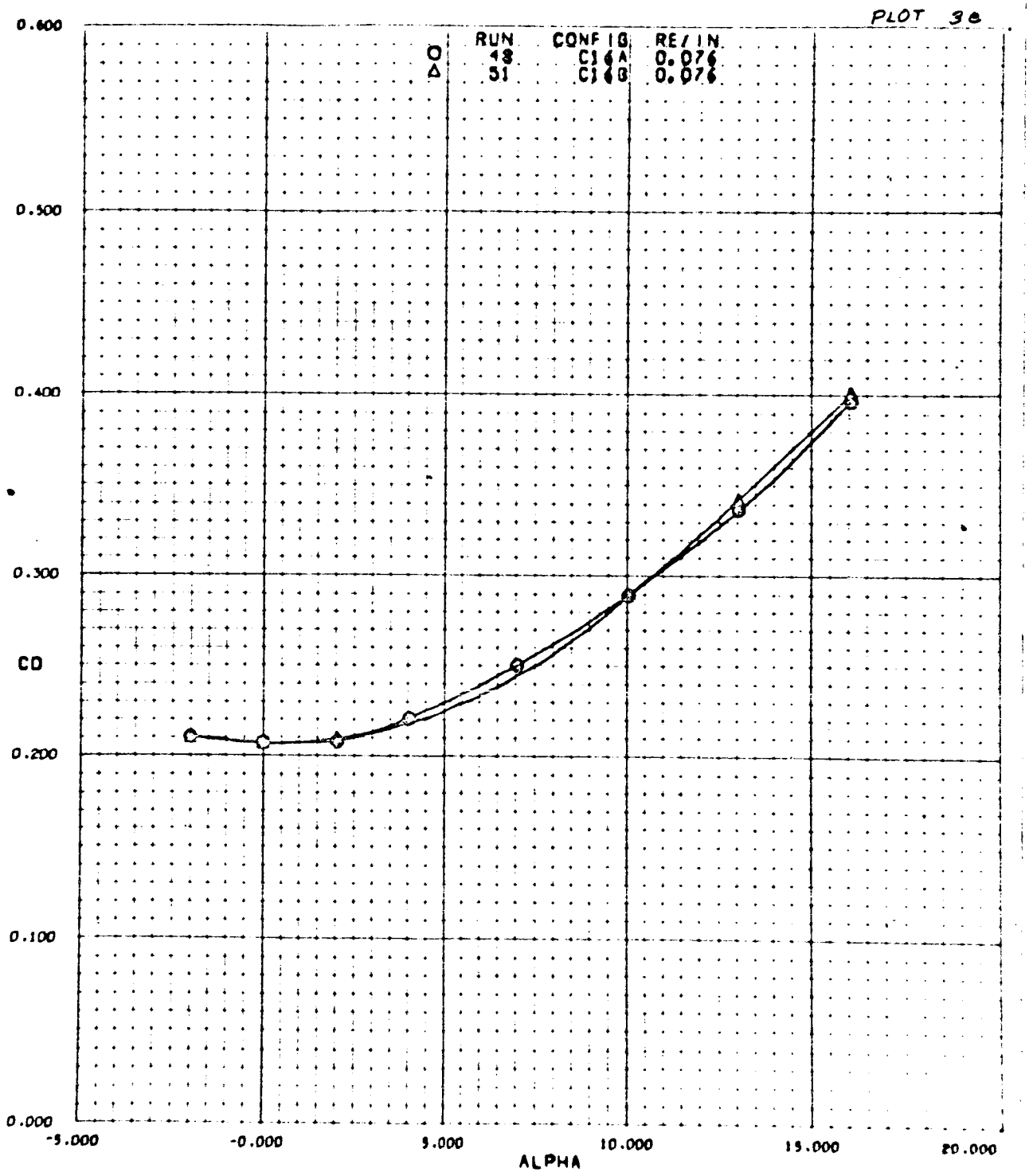
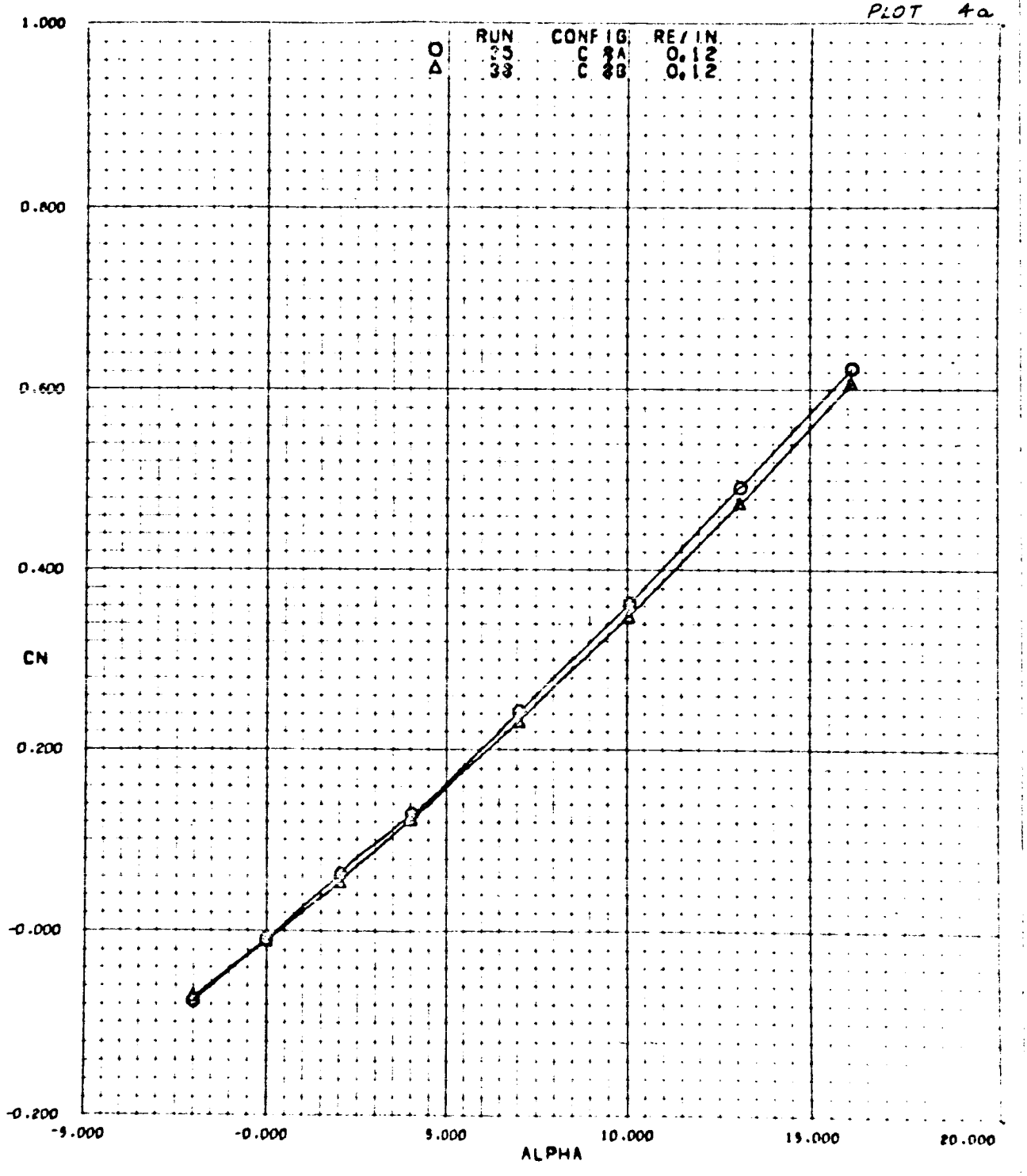
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

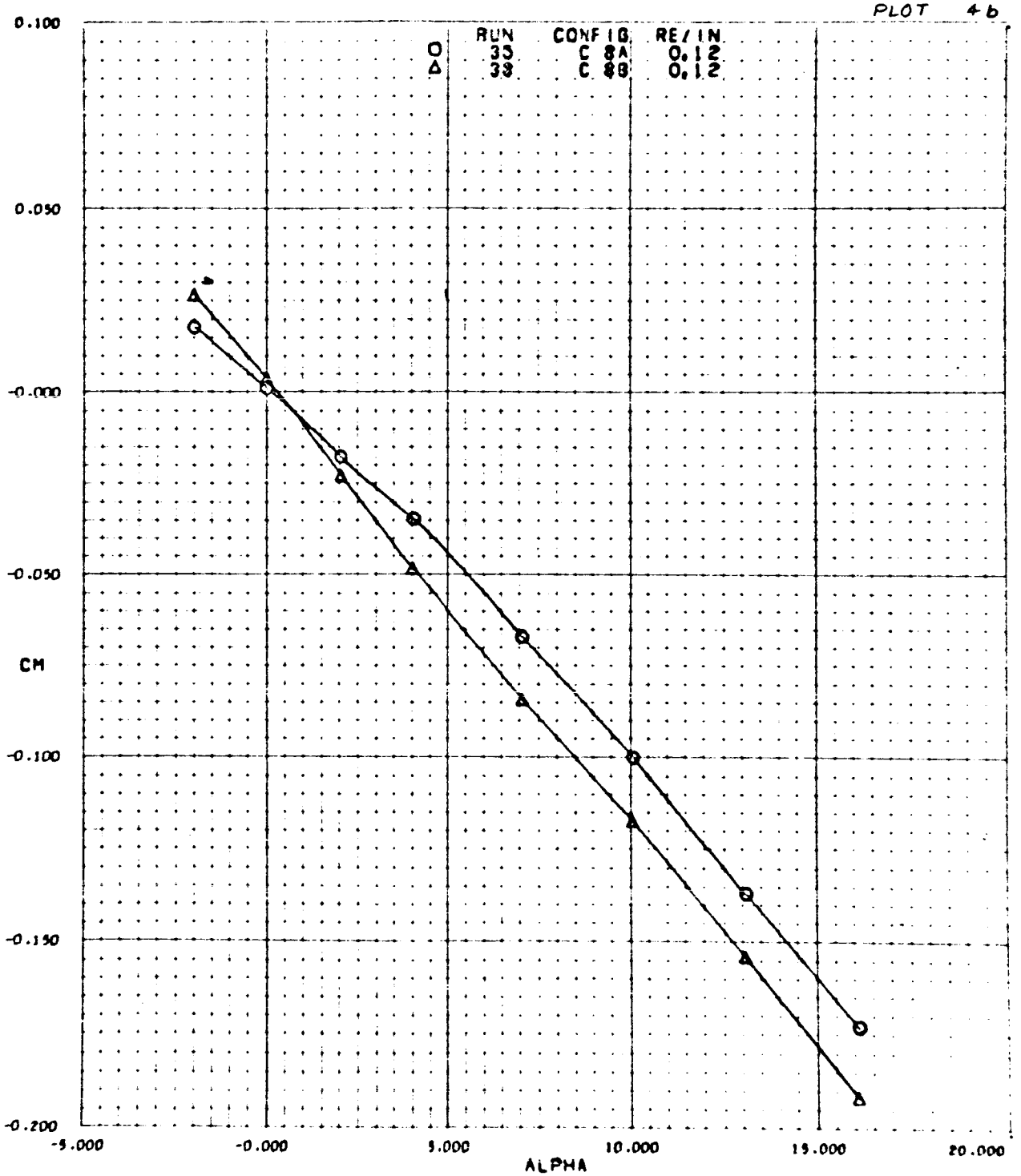

PLOT 3e
RUN CONFIG RE/IN
○ 48 C16A 0.076
△ 51 C16B 0.076
0.600
0.500
0.400
0.300
0.200
0.100
0.000
CD
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 4a

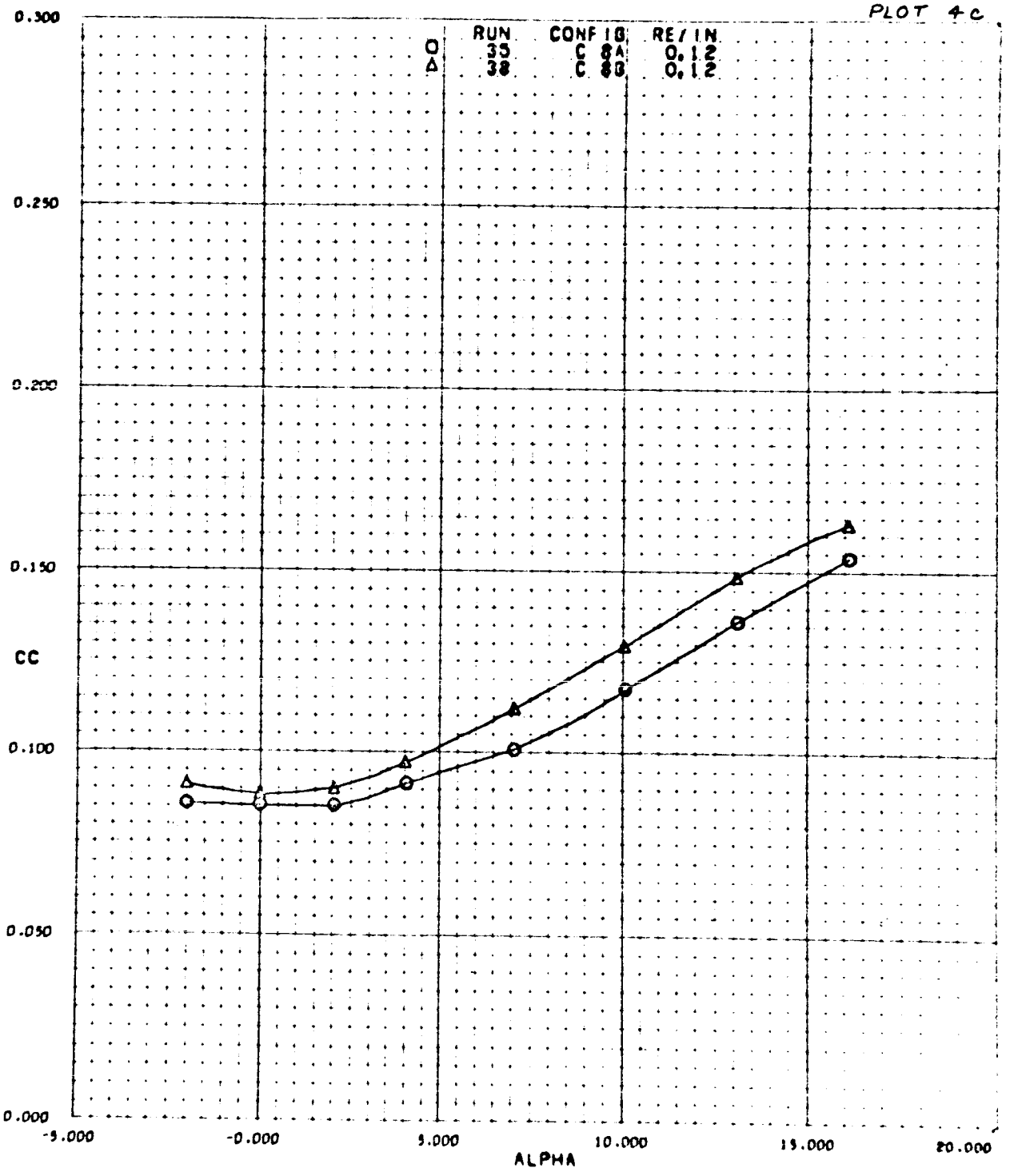

RUN CONFIG RE/IN.
O 35 C 2A 0.12
Δ 38 C 2B 0.12
1.000
0.800
0.600
0.400
0.200
-0.000
-0.200
CN
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

16

PLOT 4b

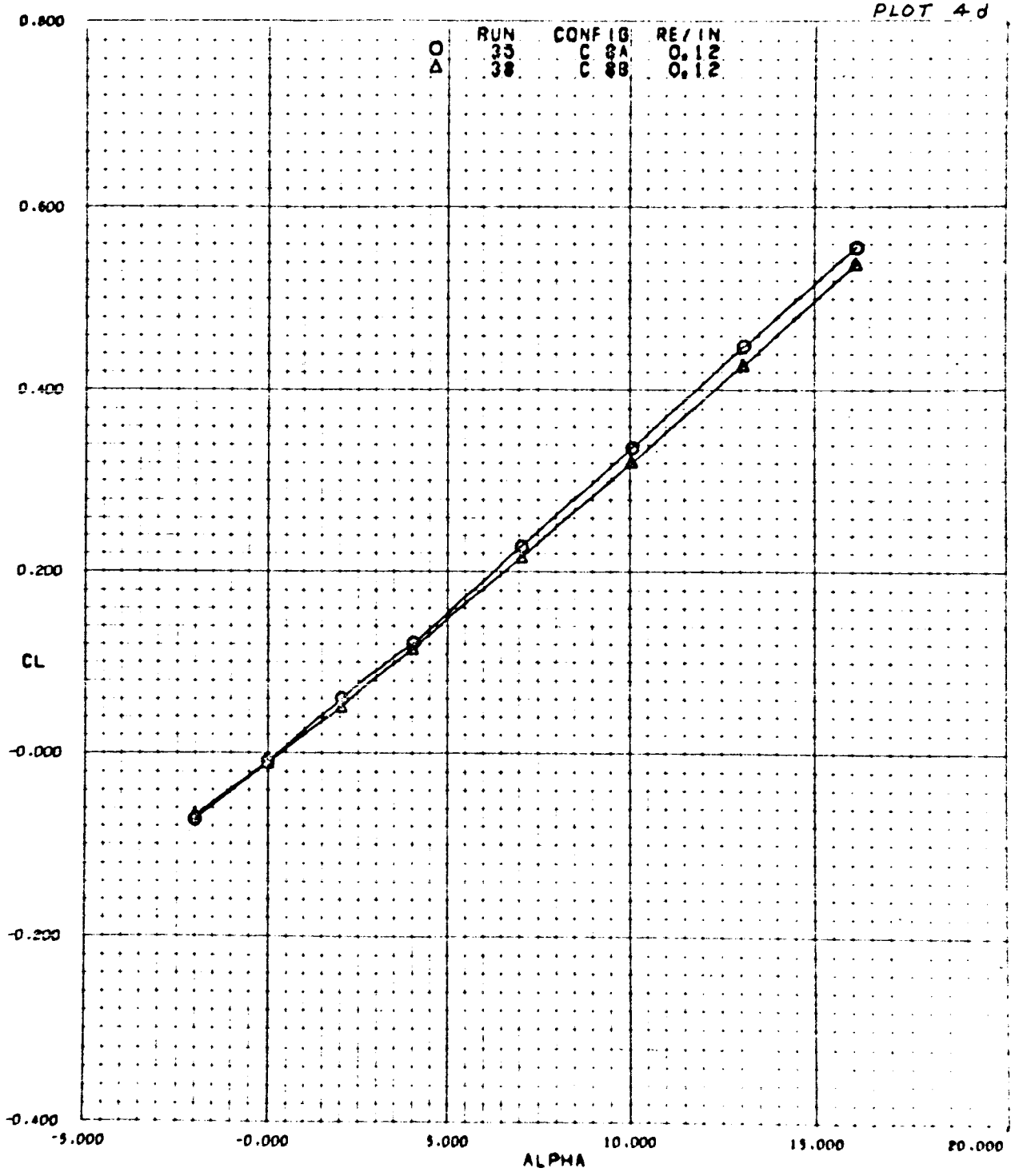

RUN CONFIG RE/IN
O 33 C 8A 0.12
Δ 38 C 8B 0.12
0.100
0.050
-0.000
-0.050
CM
-0.100
-0.150
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 4c

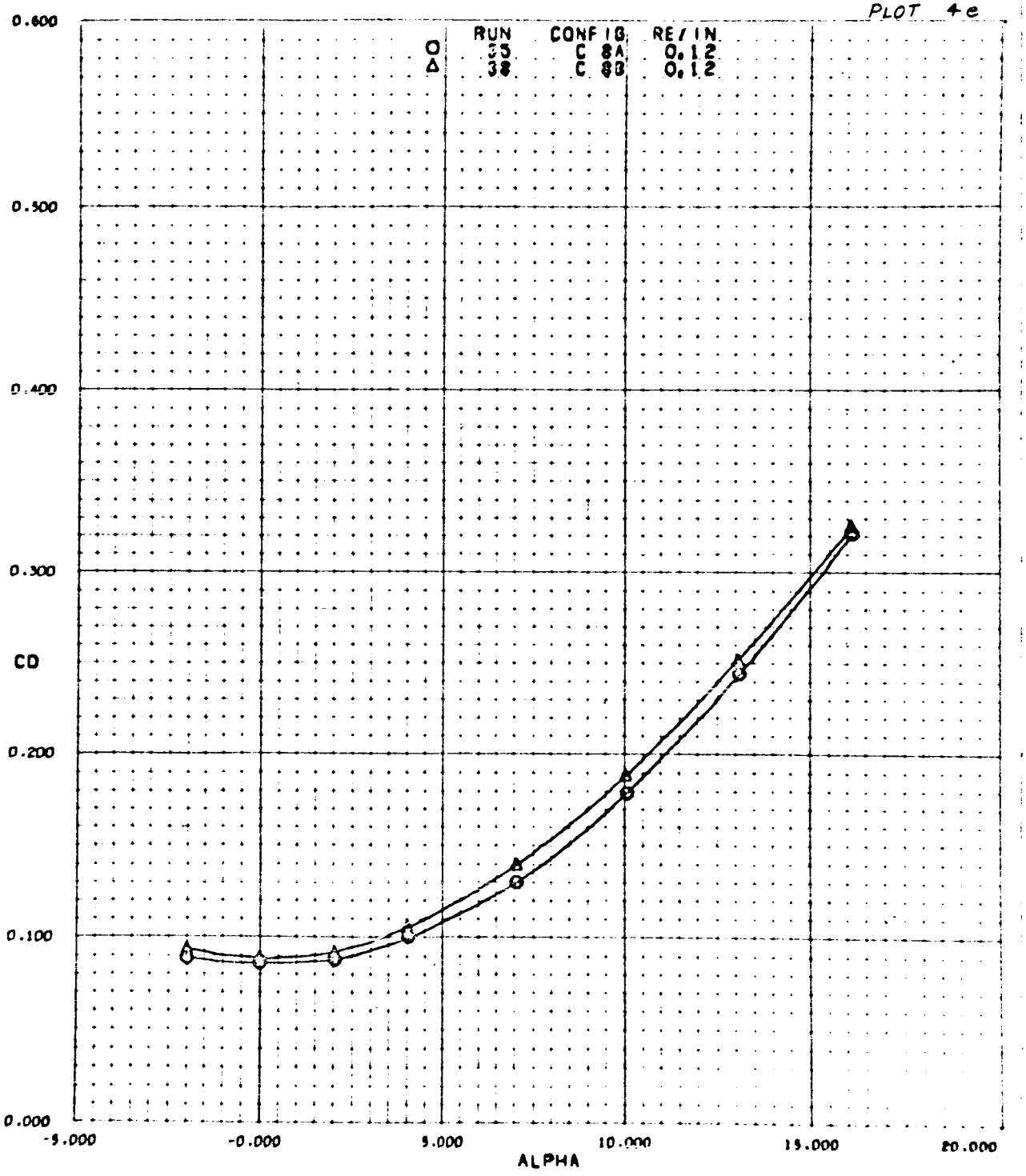

RUN CONFIG RE/IN
○ 35 C 8A 0.12
△ 38 C 8B 0.12
0.300
0.250
0.200
0.150
CC
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

18

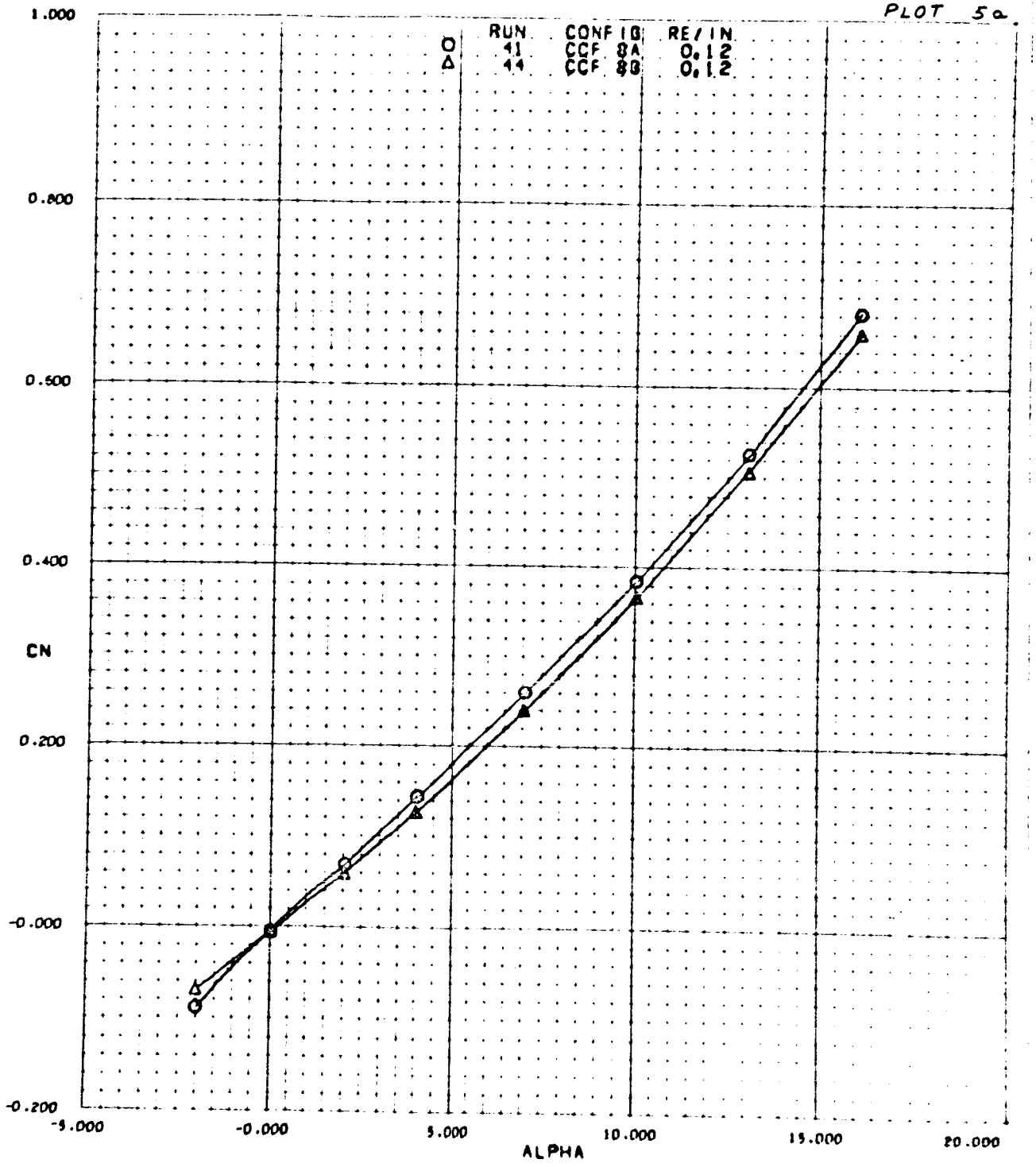
PLOT 4d


RUN CONFIG RE/IN
O 35 C 8A 0.12
Δ 38 C 8B 0.12
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

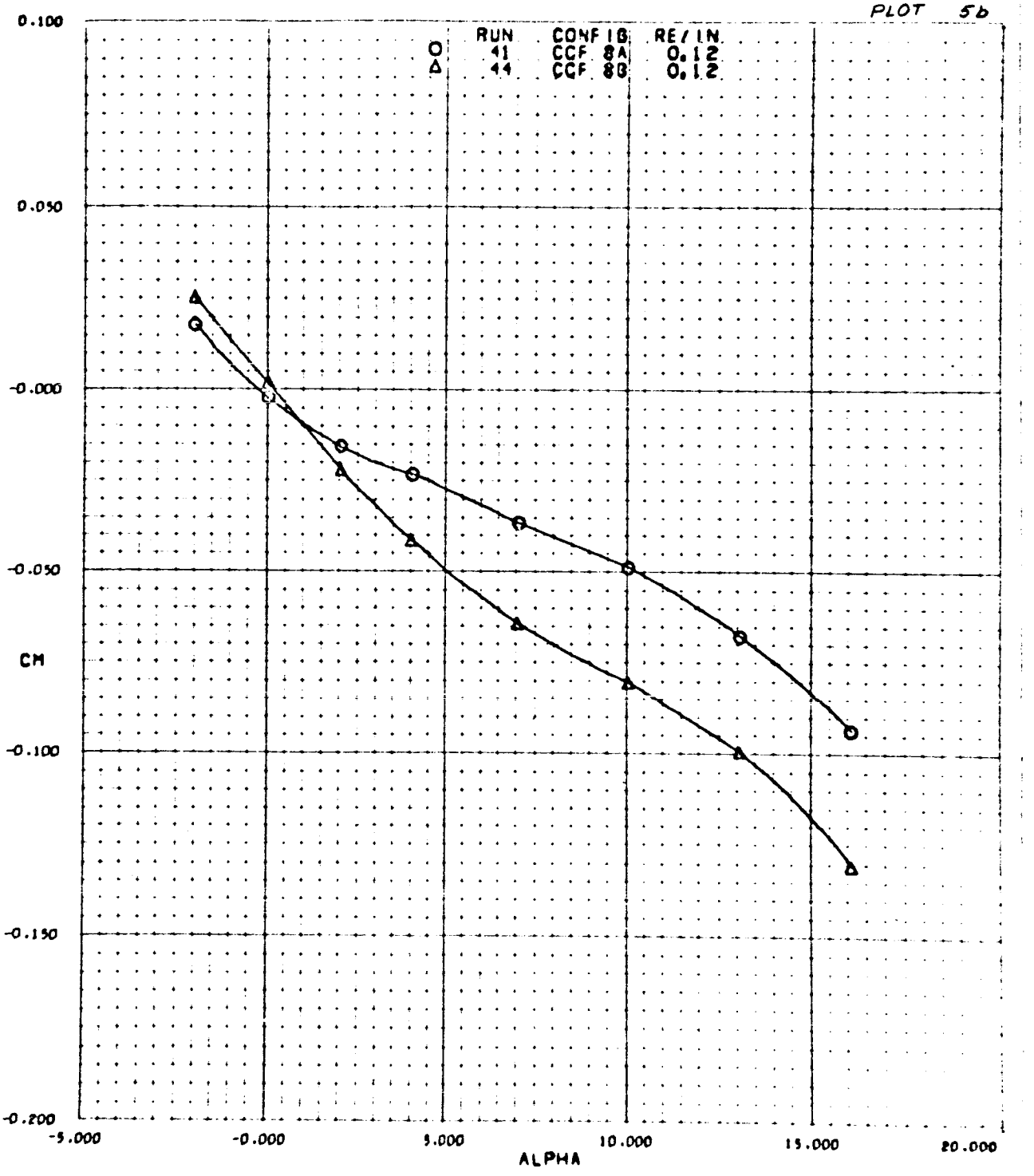
PLOT 4e

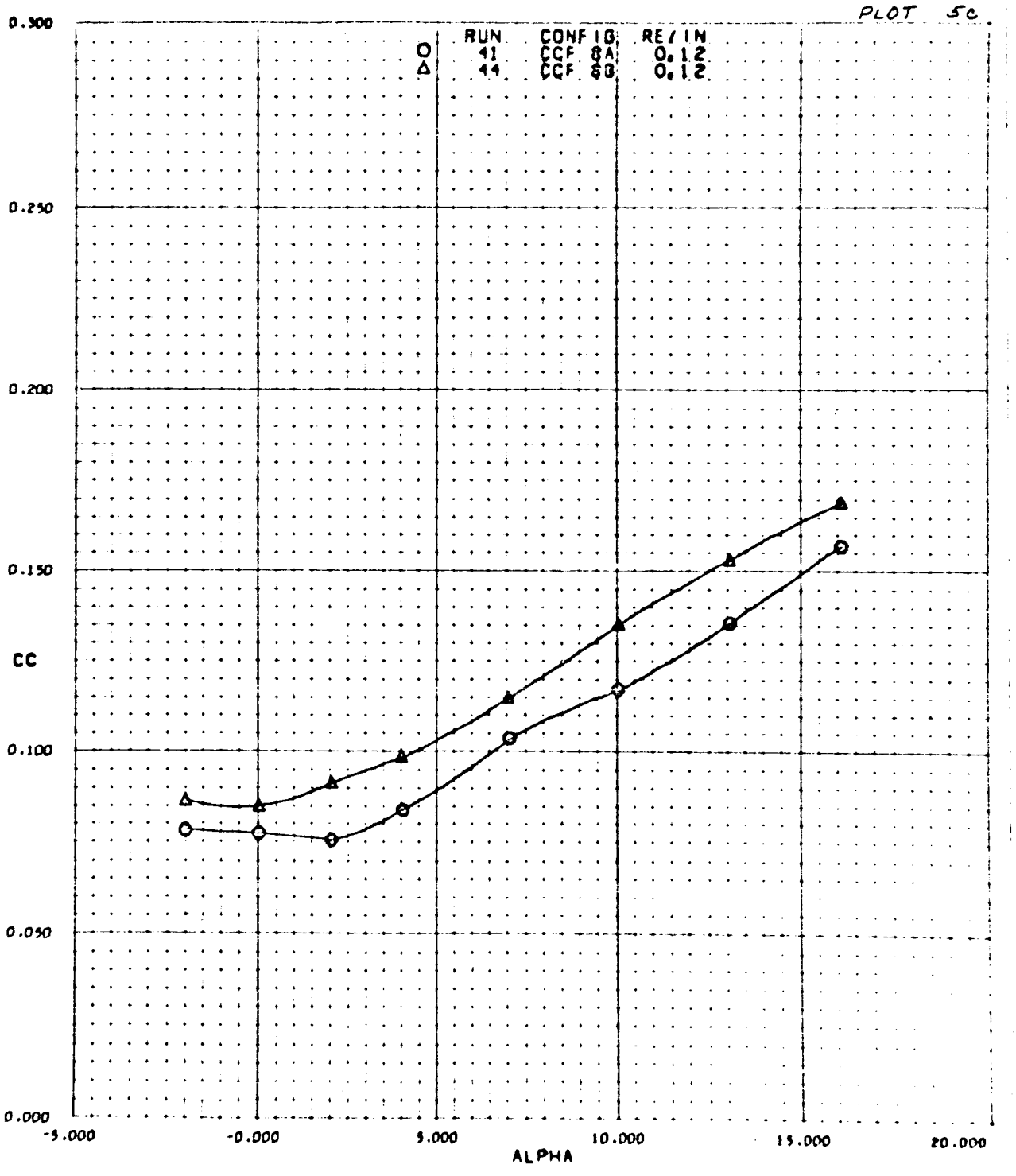

RUN CONFIG RE/IN
○ 35 C 8A 0.12
△ 38 C 8B 0.12
0.600
0.500
0.400
0.300
CD
0.200
0.100
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 5a

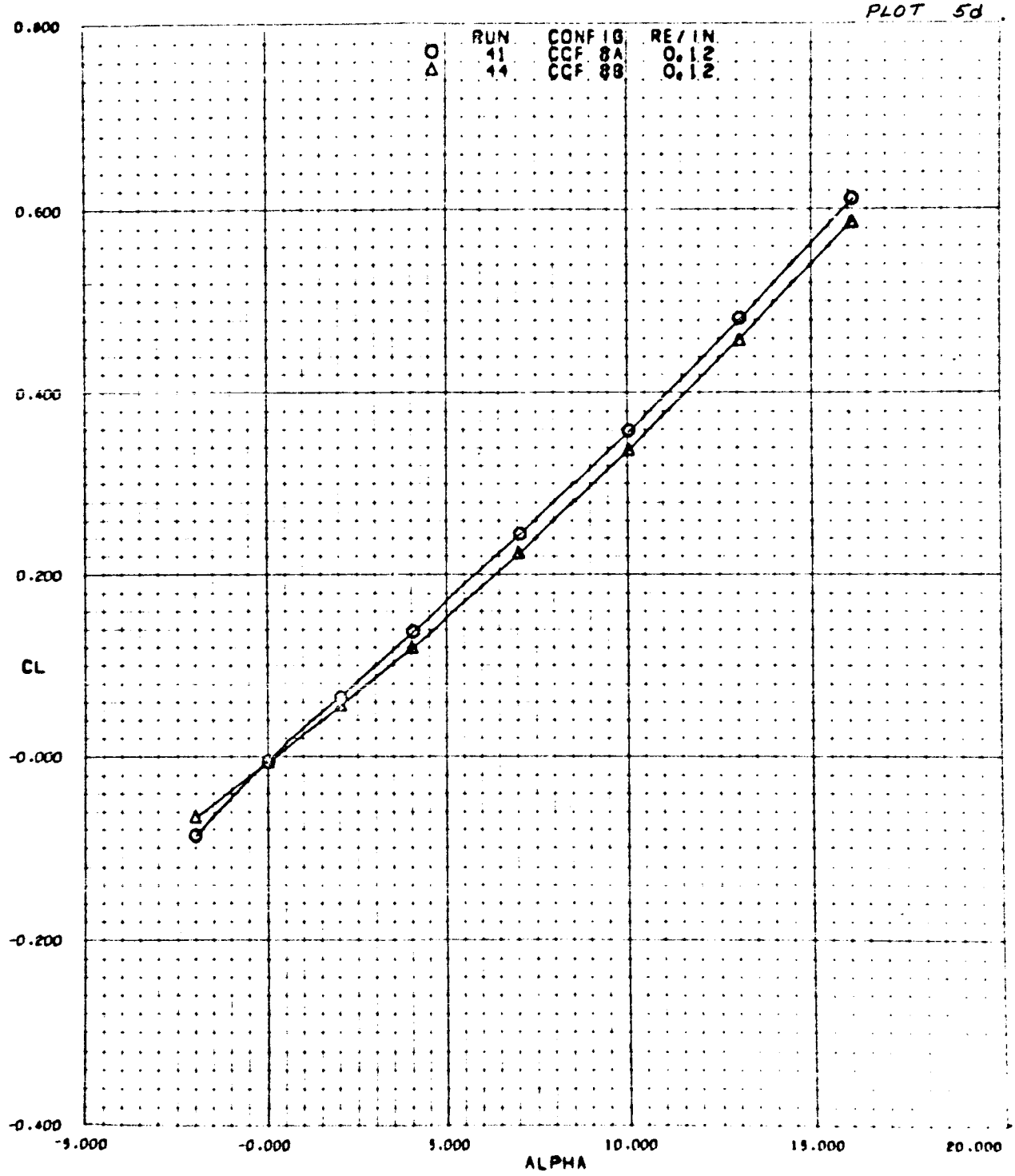

RUN CONFIG RE/IN
O 41 CCF 8A 0.12
Δ 44 CCF 8B 0.12
1.000
0.800
0.600
0.400
CN
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 5b

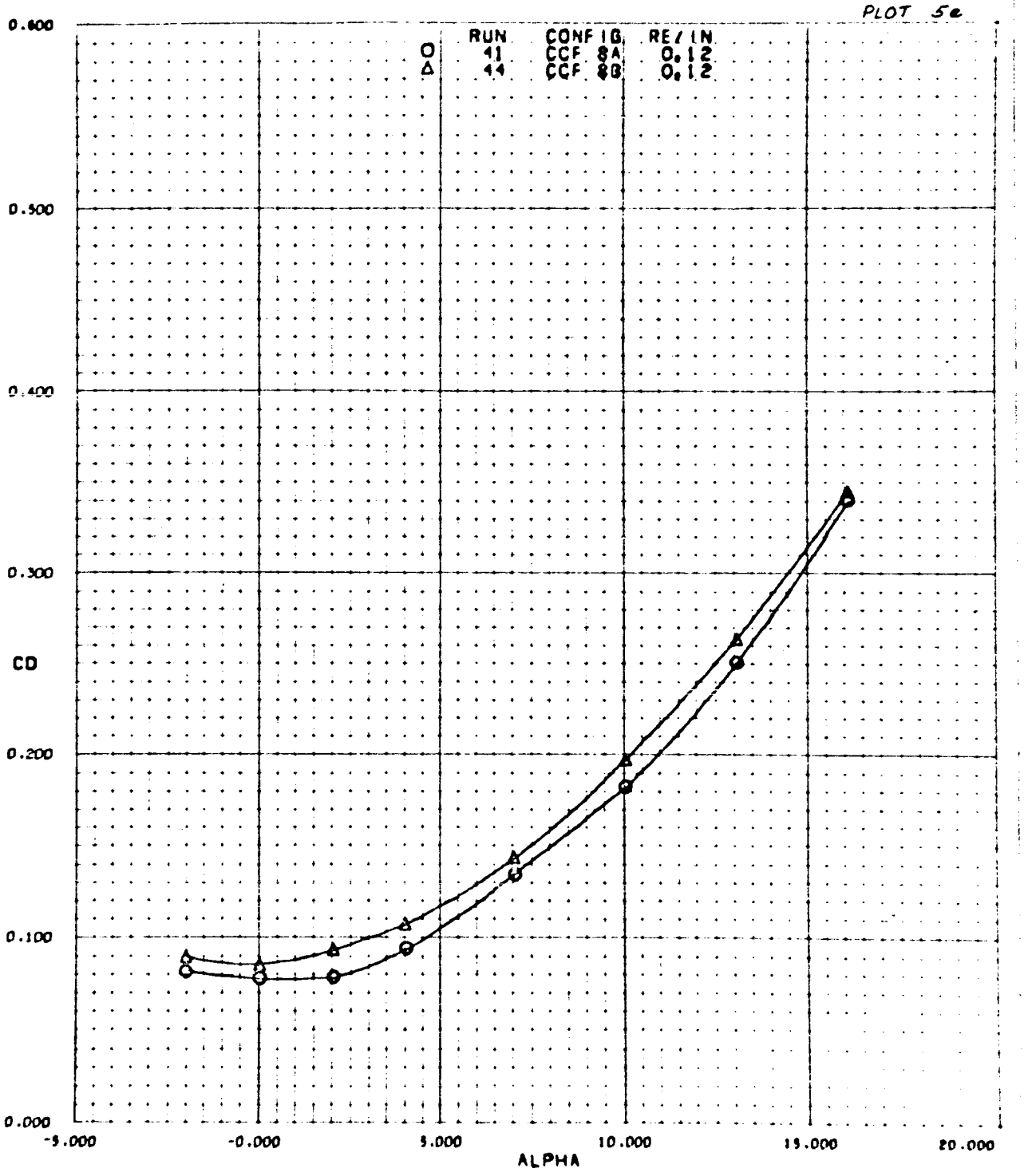

RUN CONFIG RE/IN.
O 41 CCF 8A 0.12
Δ 44 CCF 8B 0.12
0.100
0.050
-0.000
-0.050
-0.100
-0.150
-0.200
CM
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

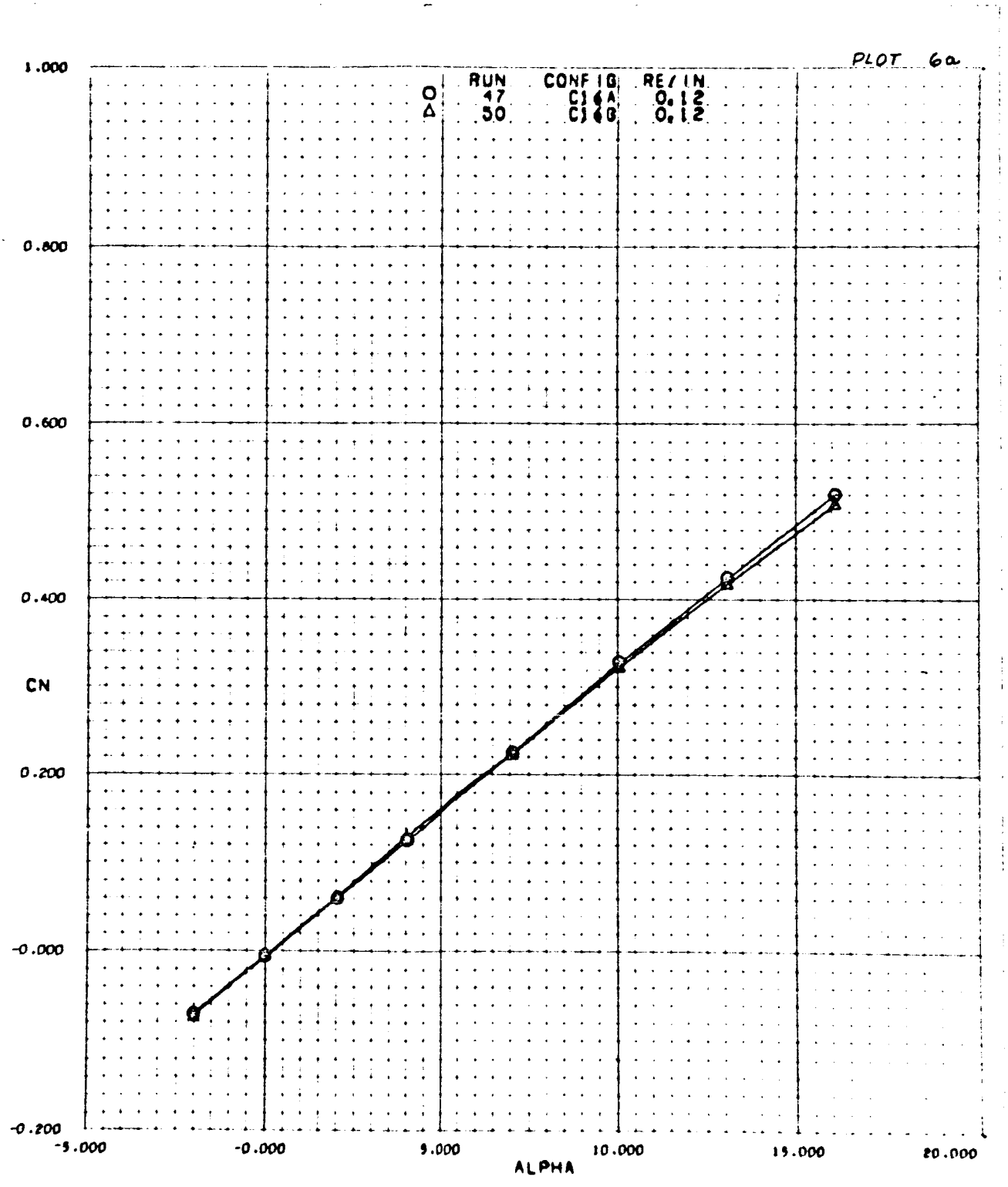

PLOT 5c
RUN CONFIG RE/IN
O 41 CCF 8A 0.12
Δ 44 CCF 8G 0.12
0.300
0.250
0.200
0.150
0.100
0.050
0.000
CC
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 5d

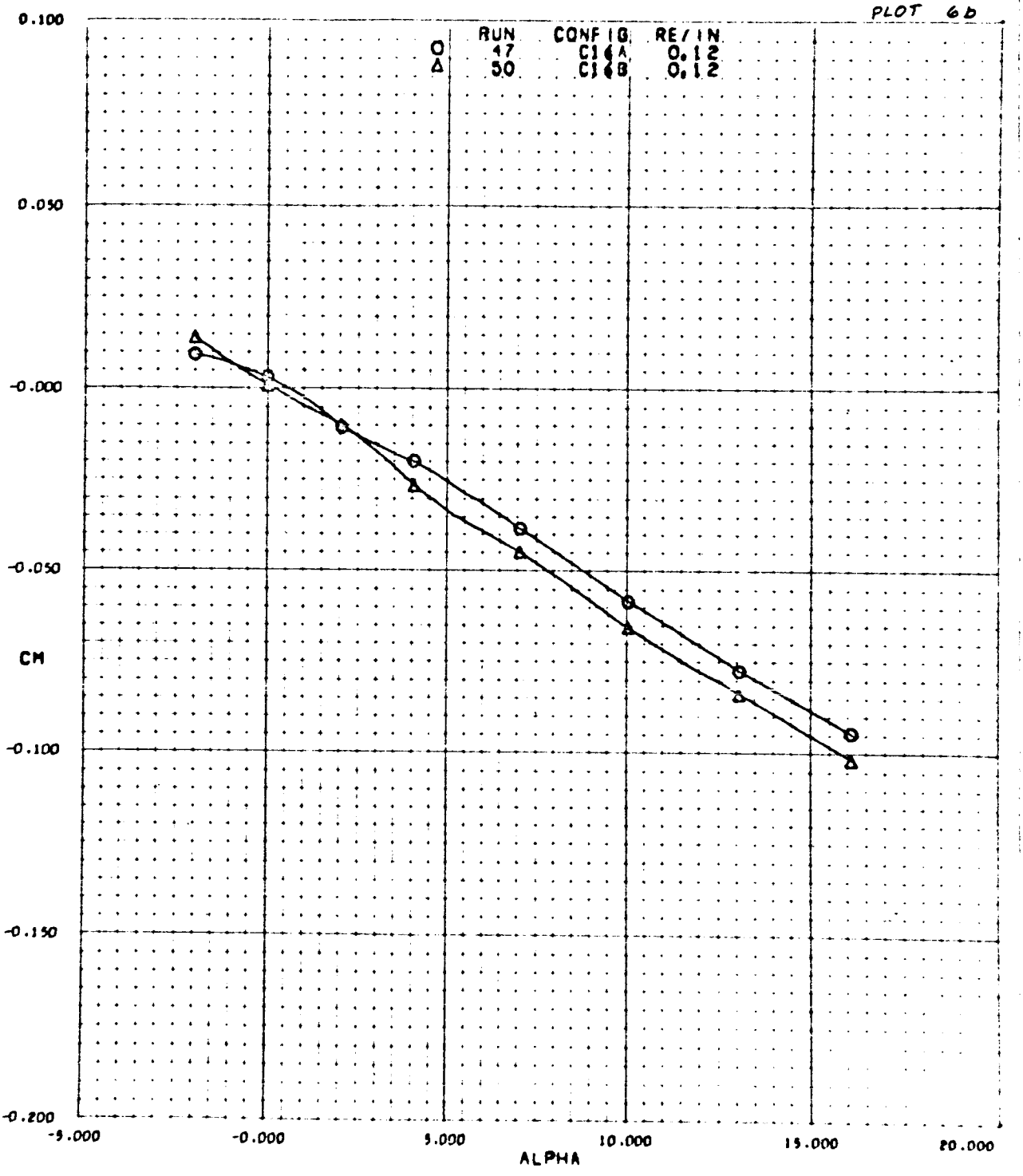

RUN CONFIG RE/IN
41 CCF 8A 0.12
44 CCF 8B 0.12
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 5e

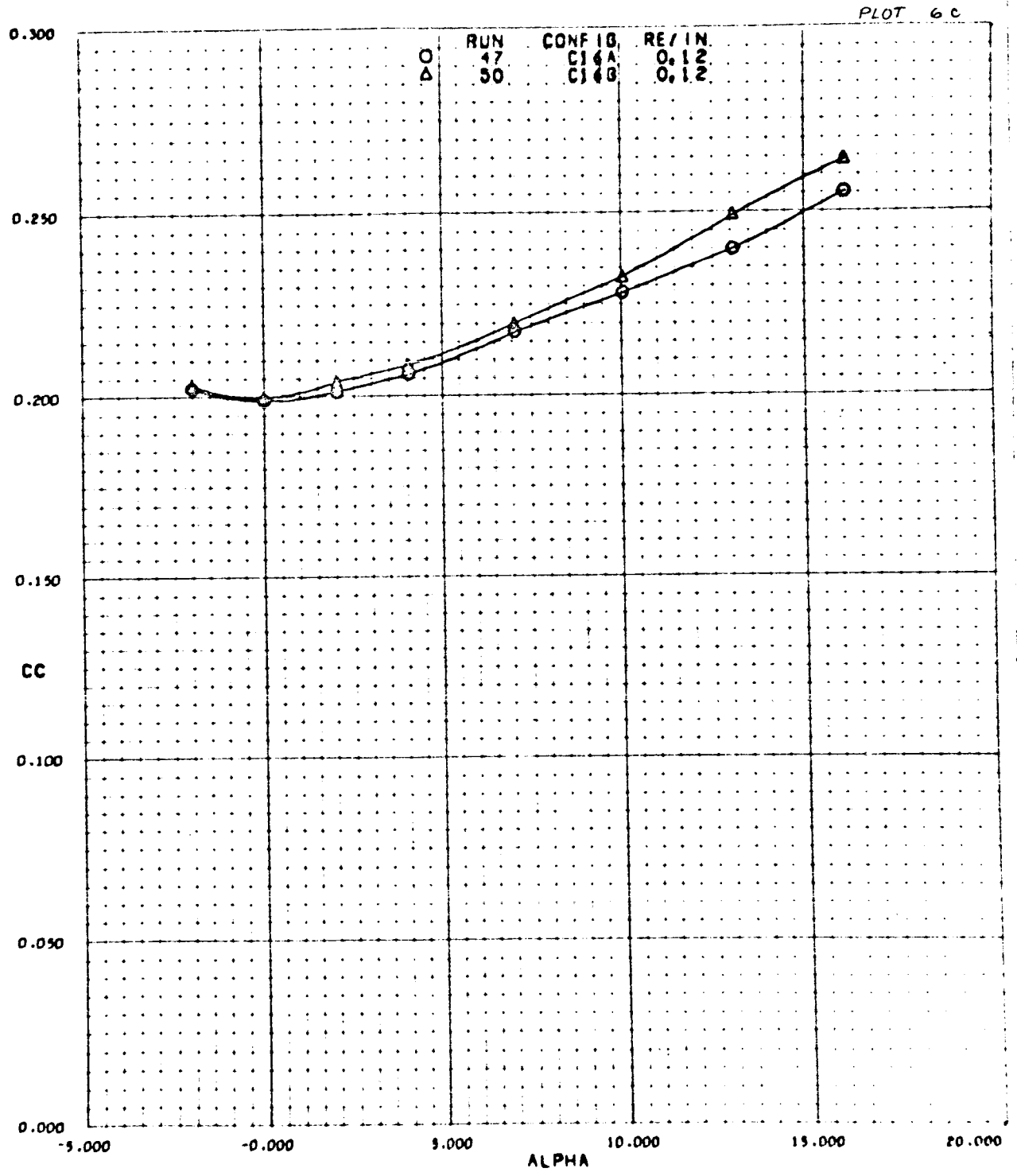

RUN CONFIG RE/IN
O 41 CCF 8A 0.12
Δ 44 CCF 8B 0.12
0.600
0.500
0.400
0.300
CD
0.200
0.100
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

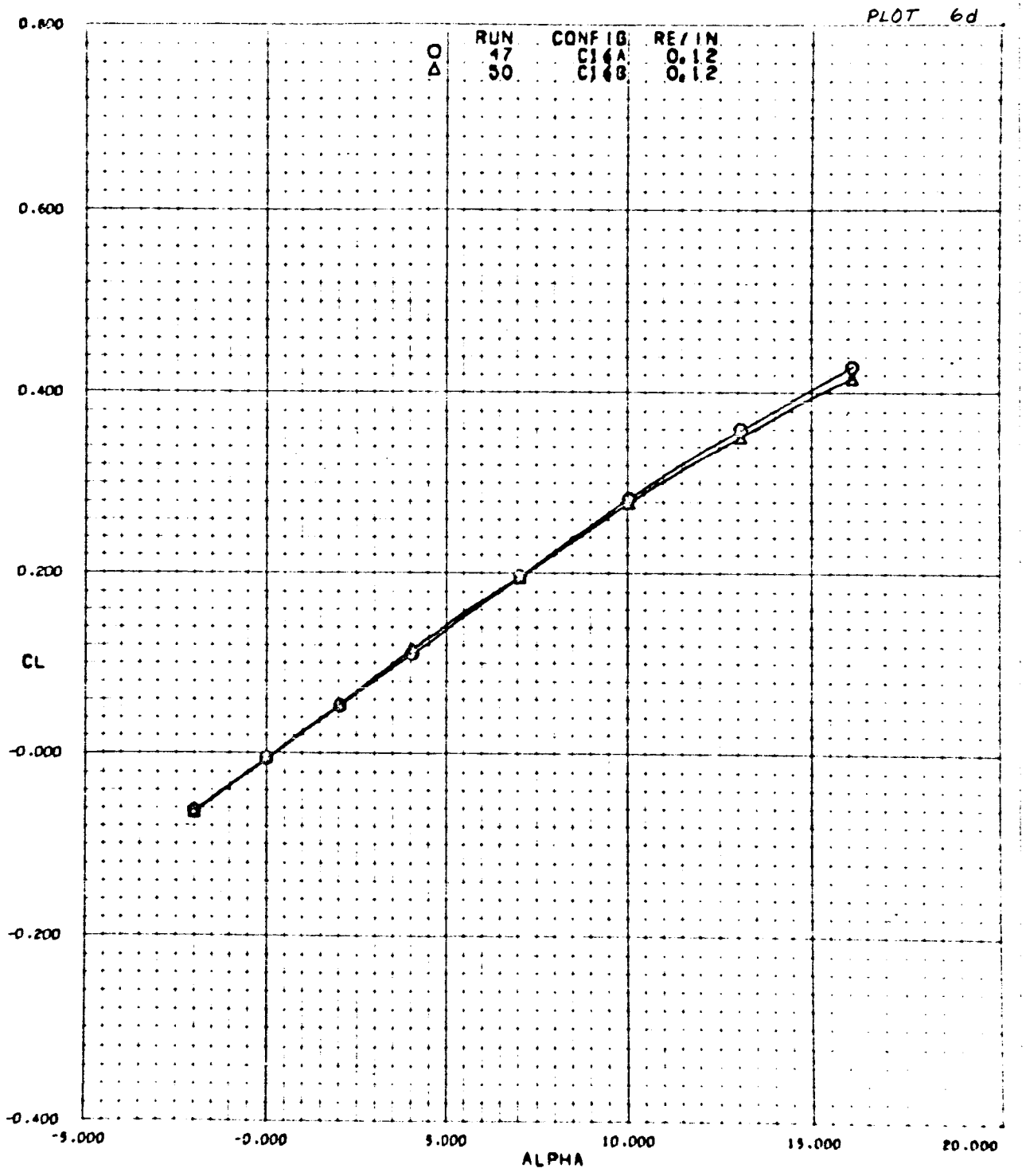

PLOT 6a
RUN CONFIG RE/IN
O 47 C1 ϕA 0.12
Δ 50 C1 ϕB 0.12
1.000
0.800
0.600
0.400
0.200
-0.000
-0.200
CN
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 6b

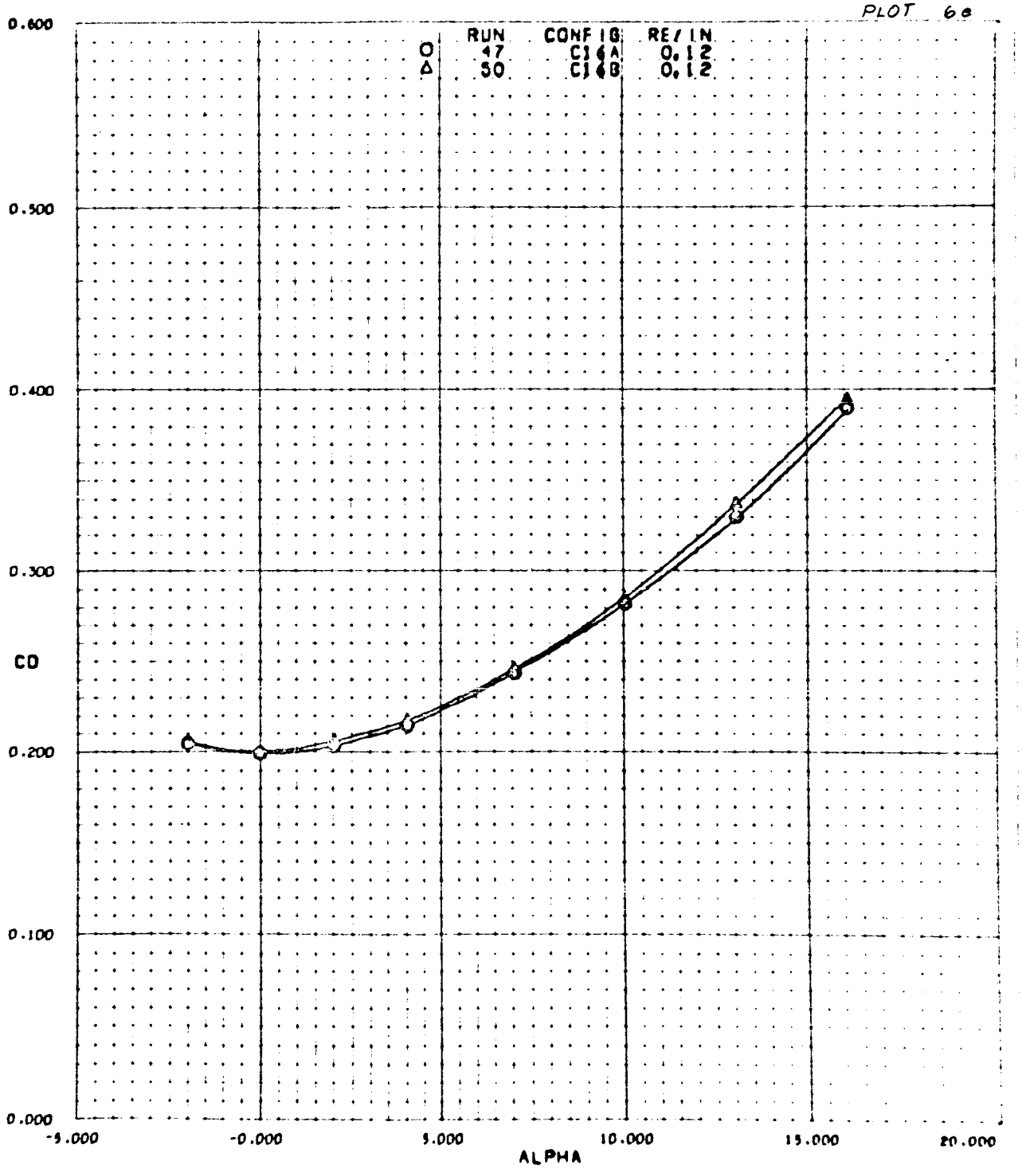

RUN CONFIG RE/IN
O 47 C1¢A 0.12
Δ 50 C1¢B 0.12
0.100
0.050
-0.000
-0.050
CM
-0.100
-0.150
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 6 c

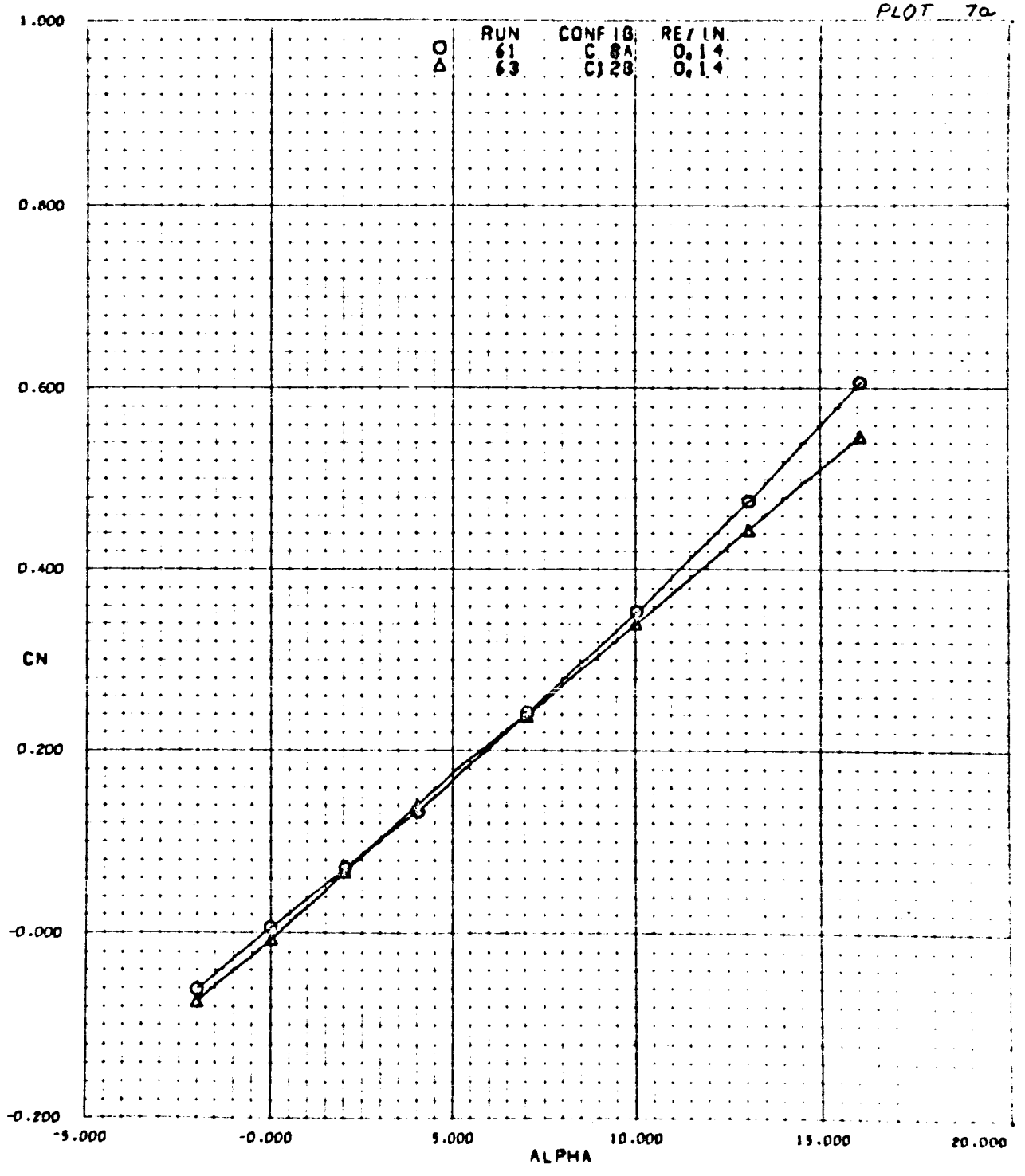

RUN CONFIG. RE/IN.
O 47 C1 ¢A 0.12
Δ 50 C1 ¢B 0.12
0.300
0.250
0.200
0.150
CC
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA


PLOT 6d
RUN CONFIG RE/IN
O 47 C1 @A 0.12
Δ 50 C1 @B 0.12
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

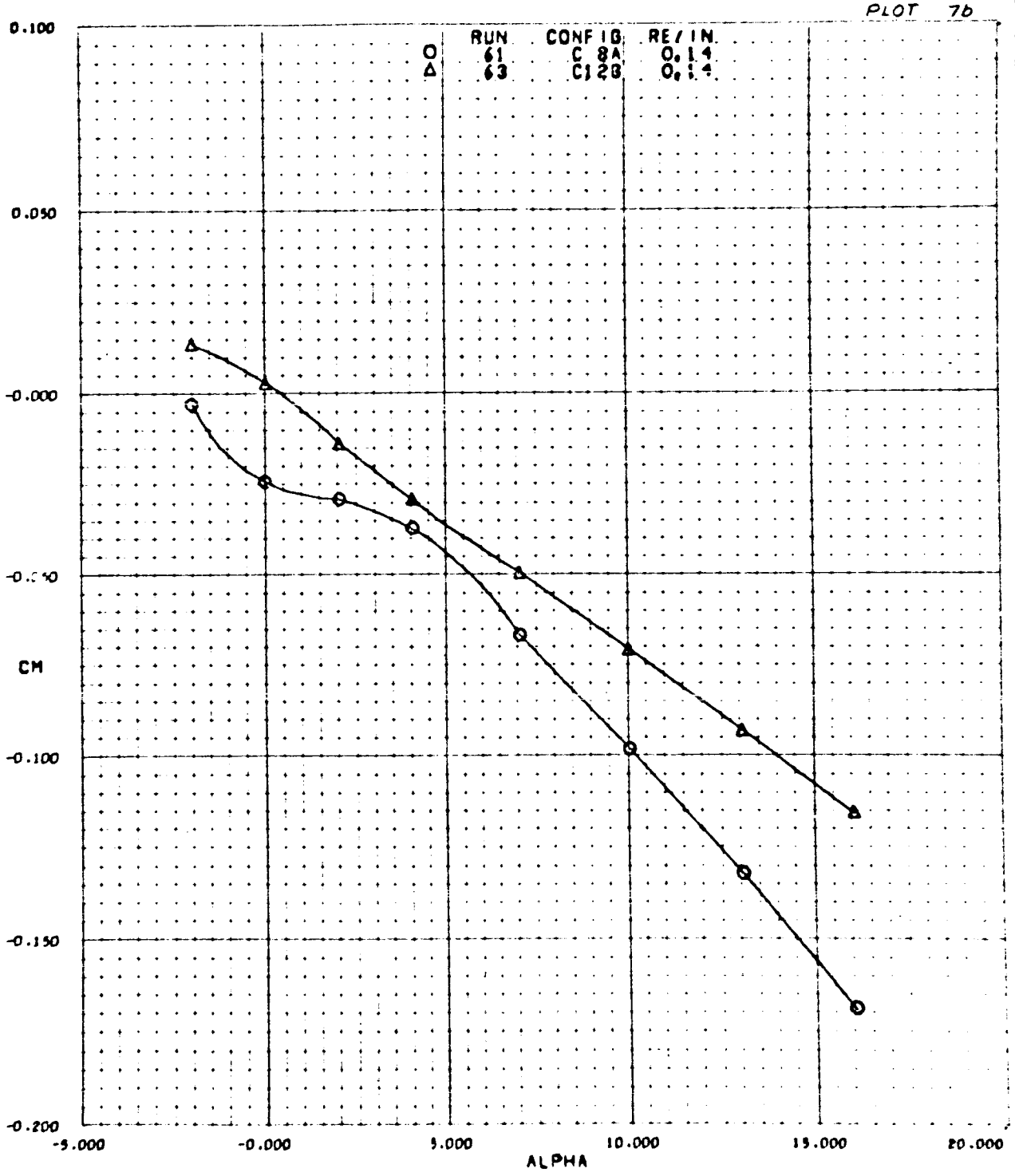
PLOT 6e

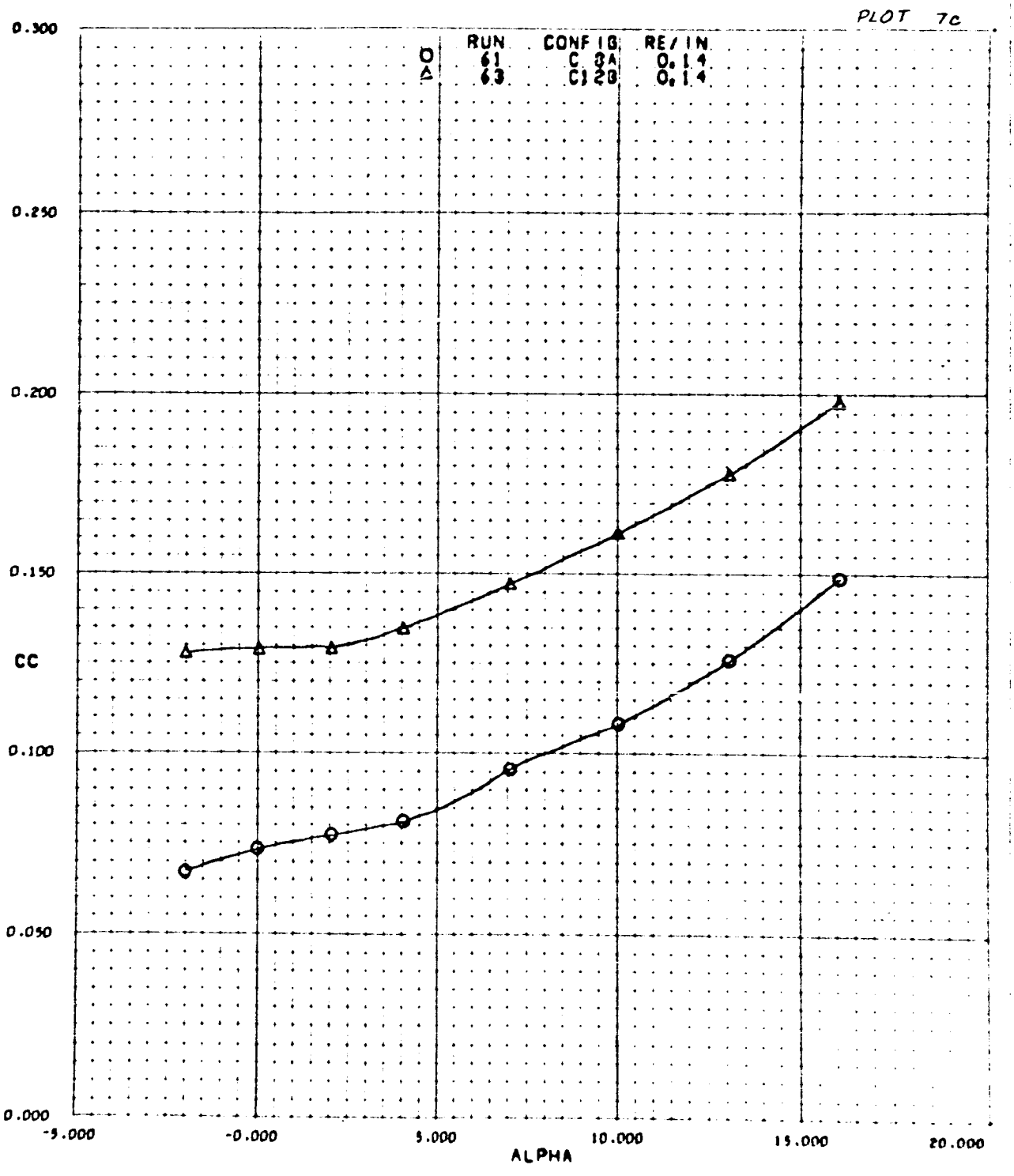

RUN CONFIG RE/IN
○ 47 C1φA 0.12
△ 50 C1φB 0.12
0.600
0.500
0.400
0.300
CD
0.200
0.100
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

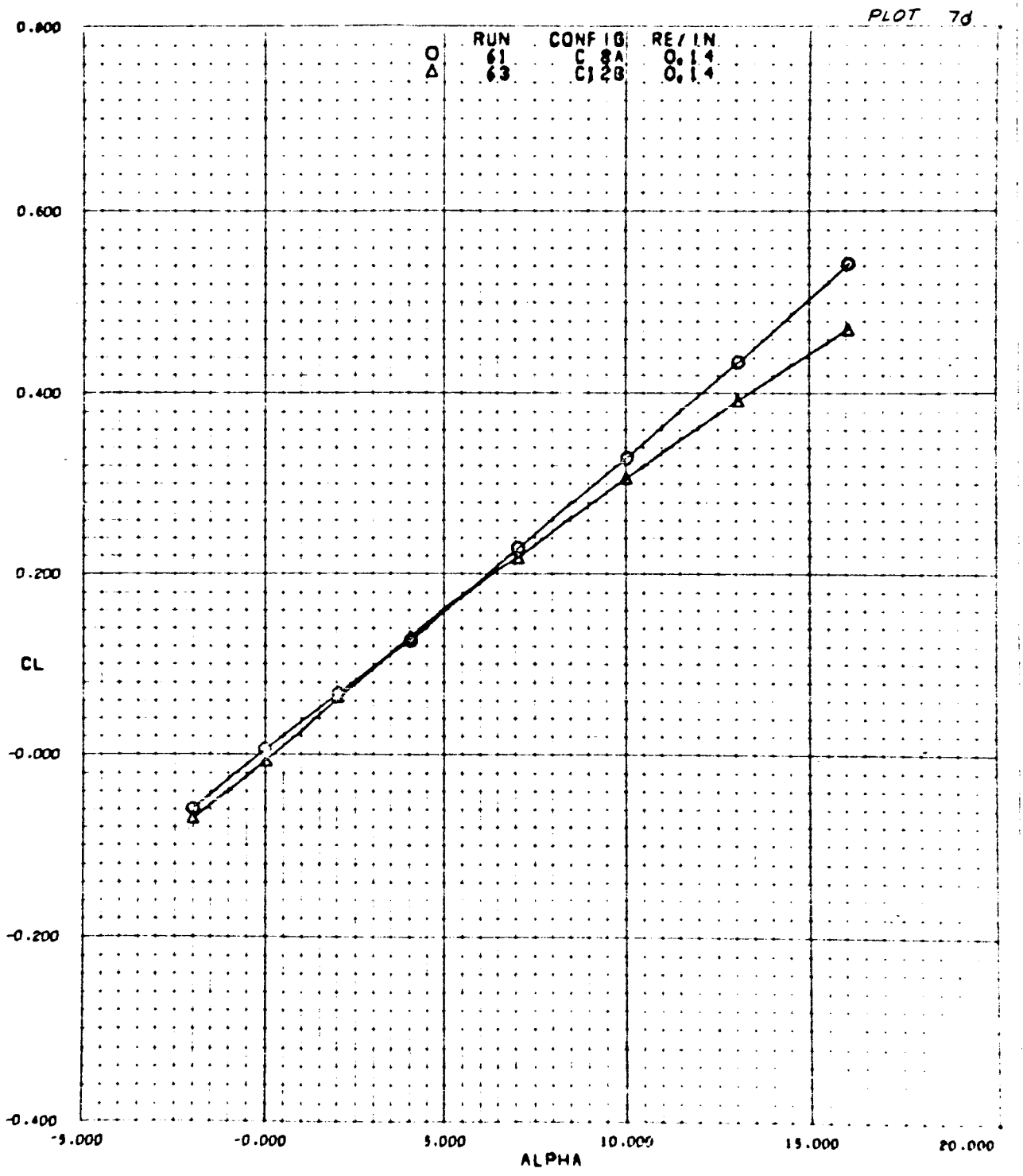
PLOT 7a

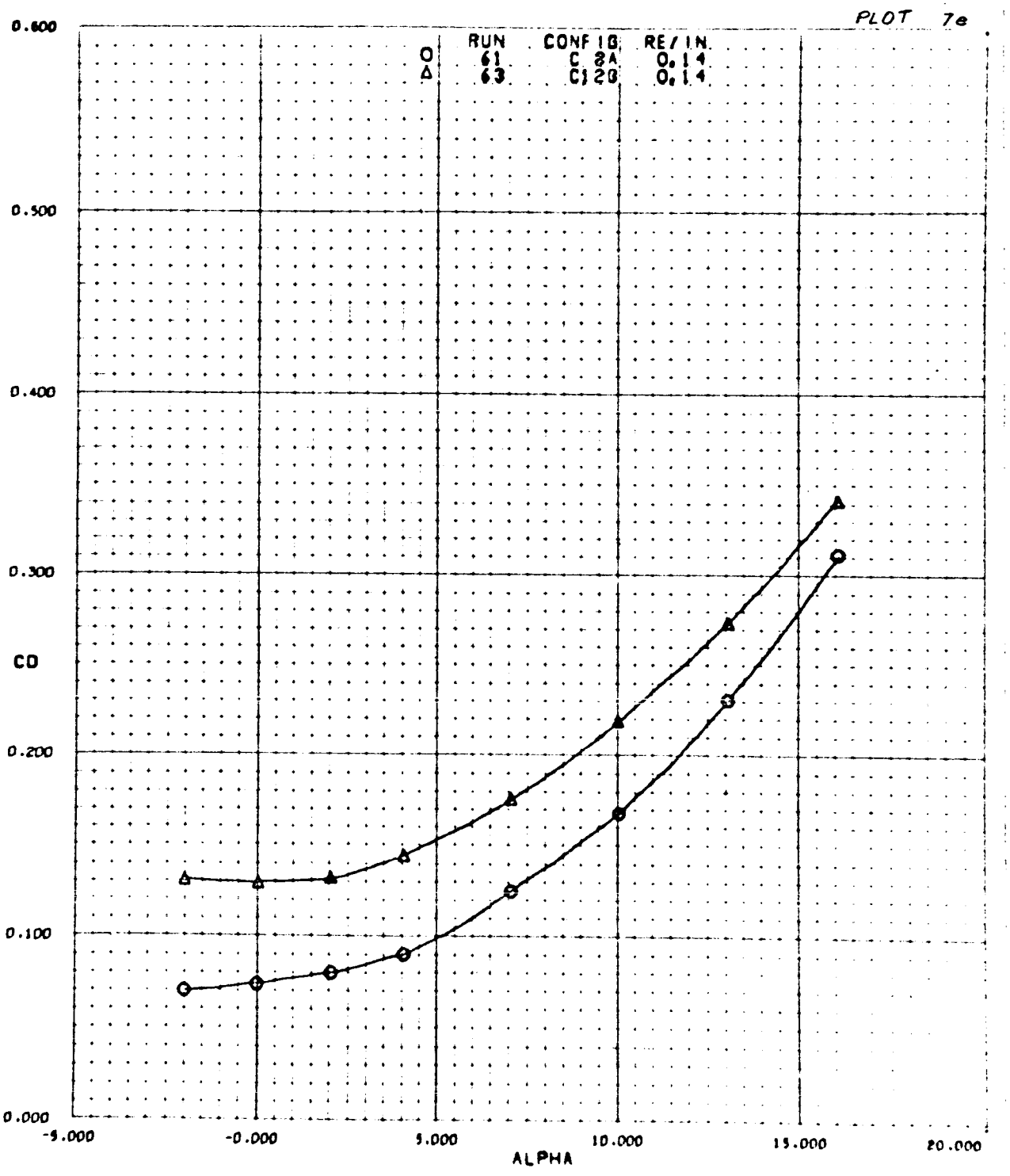

RUN CONFIG RE/IN.
○ 61 C 8A 0.14
△ 63 C12B 0.14
1.000
0.800
0.600
0.400
0.200
-0.000
-0.200
CN
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 76

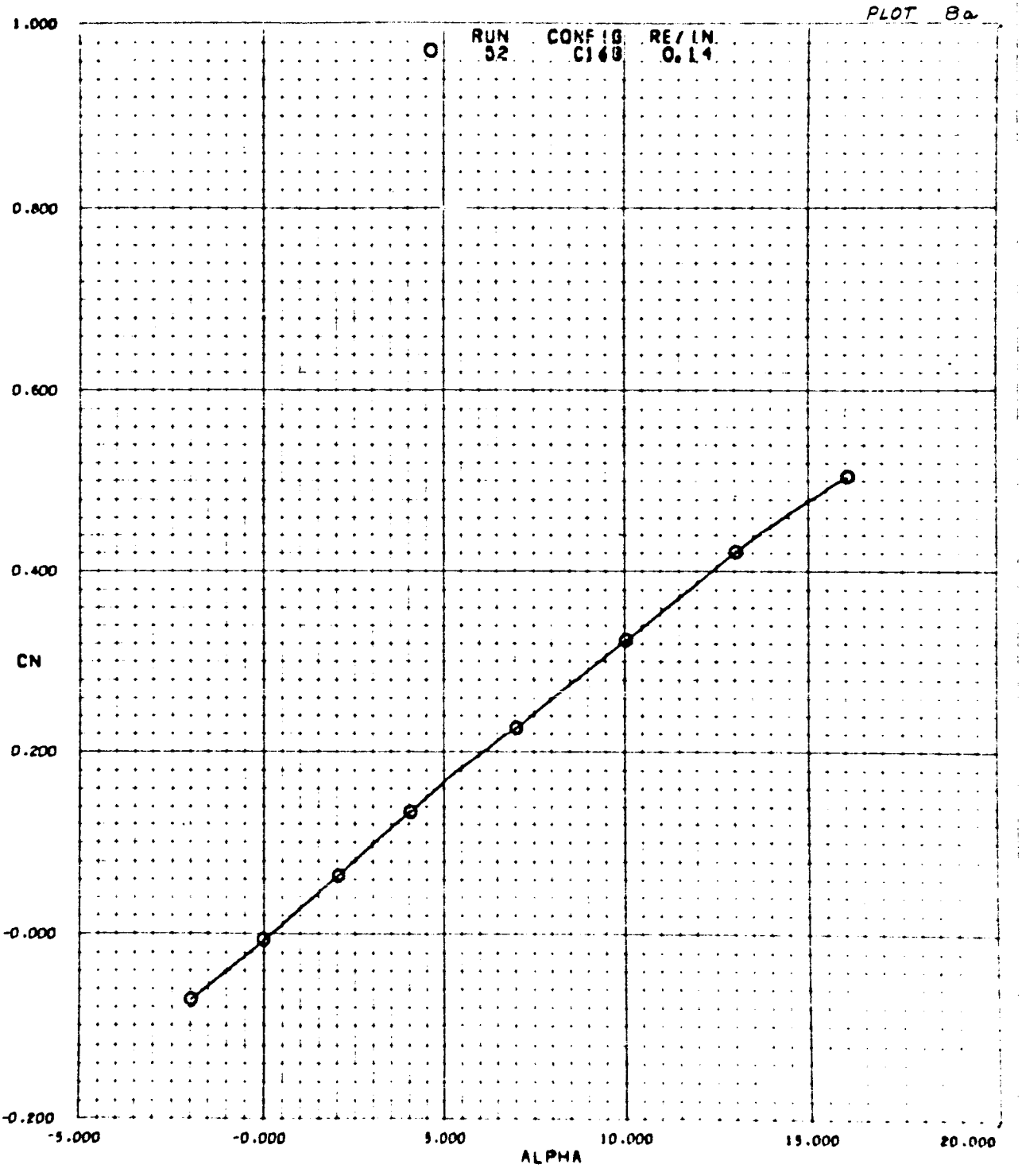

RUN CONFIG RE/IN.
O 61 C 8A 0.14
Δ 63 C128 0.14
0.100
0.050
-0.000
-0.050
-0.100
-0.150
-0.200
CM
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA


PLOT 7c
RUN CONFIG RE/IN
61 C 3A 0.14
63 C12B 0.14
0.300
0.250
0.200
0.150
0.100
0.050
0.000
CC
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

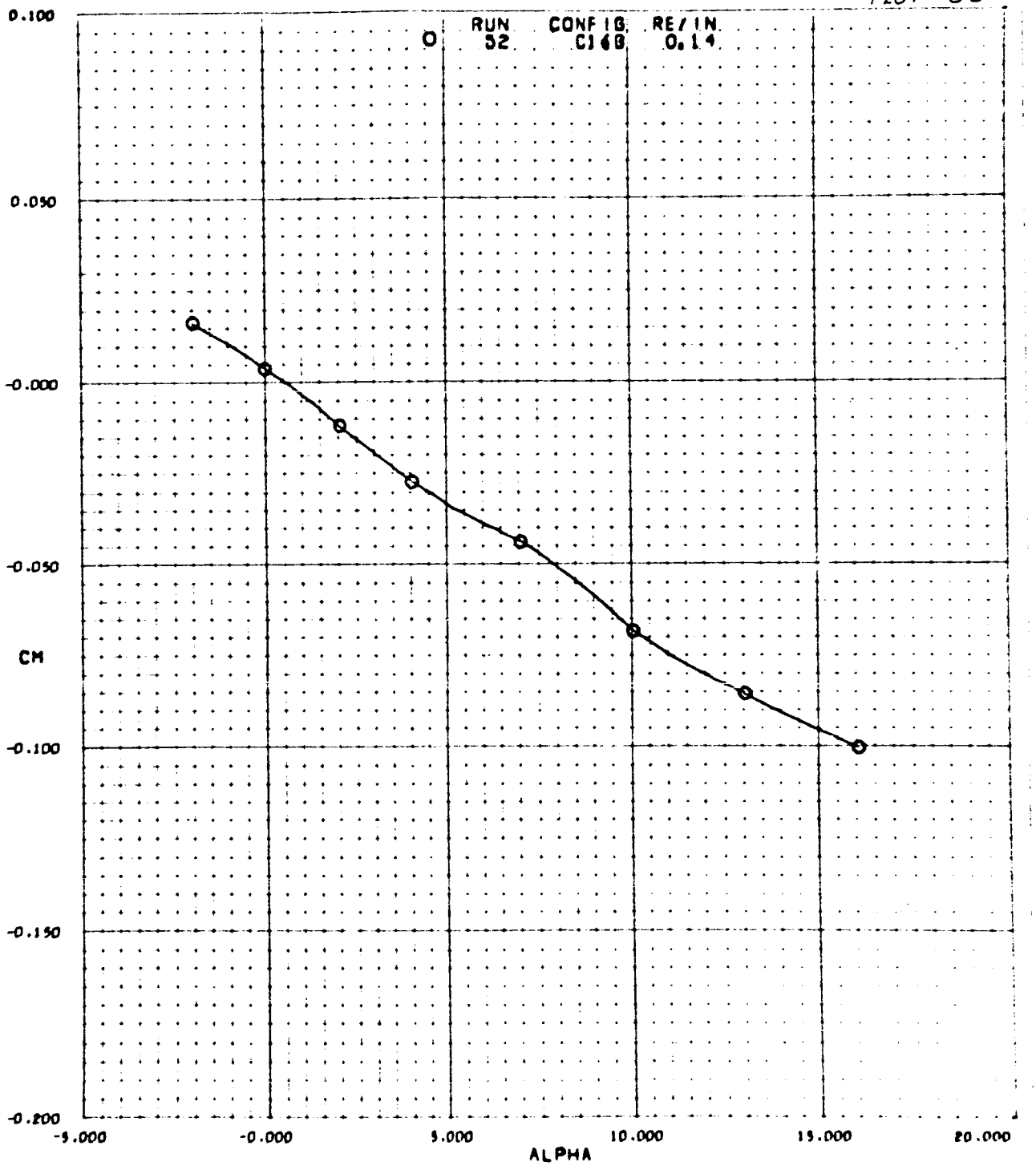

PLOT 7d
RUN CONFIG RE/IN
O 61 C 8A 0.14
Δ 63 C12B 0.14
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA


PLOT 7e
RUN CONFIG RE/IN.
○ 61 C 2A 0.14
△ 63 C1 2B 0.14
0.600
0.500
0.400
0.300
CD
0.200
0.100
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

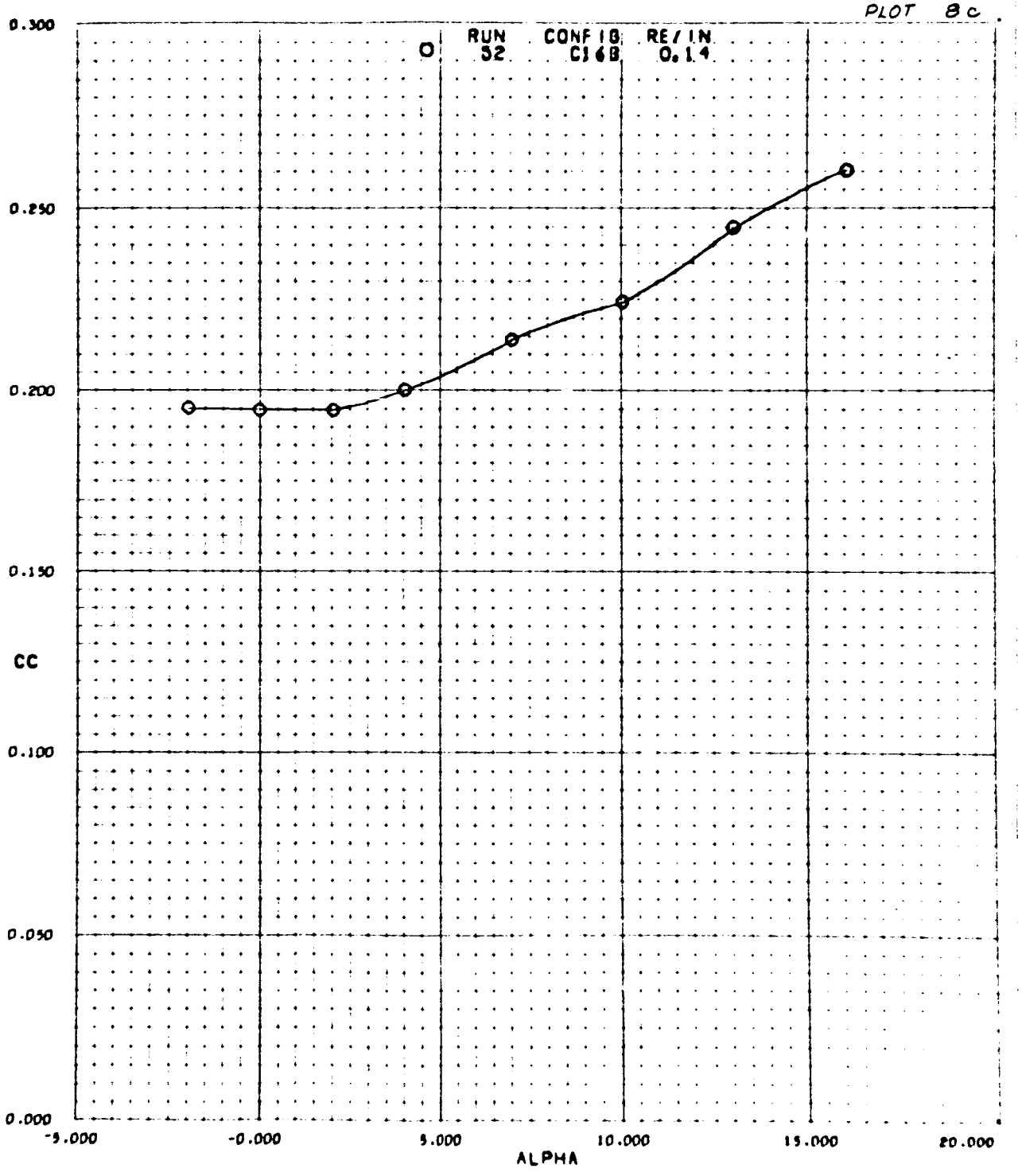
PLOT 8a

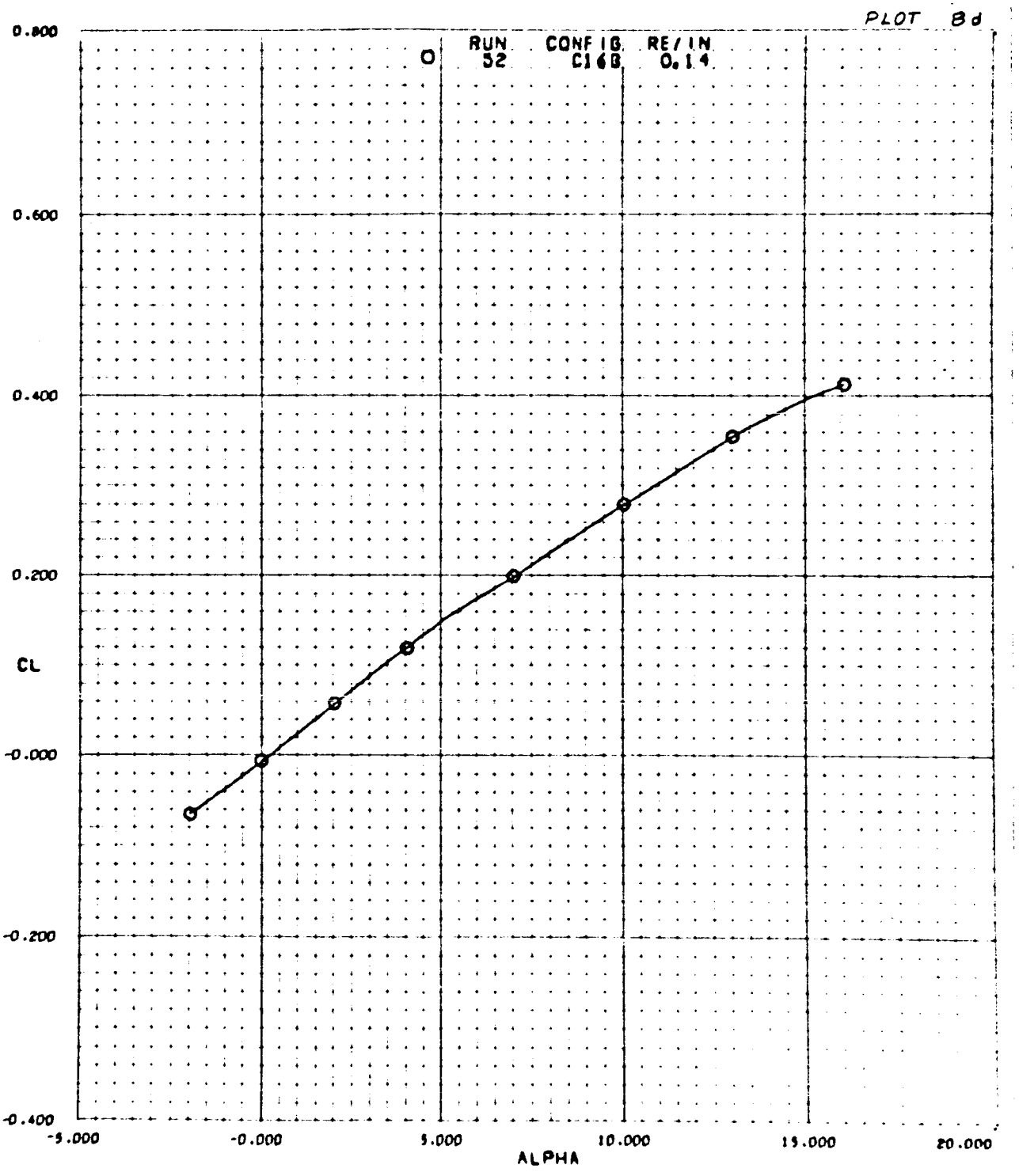

RUN 52
CONFIG C168
RE/LN. 0.L4
1.000
0.800
0.600
0.400
CN
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

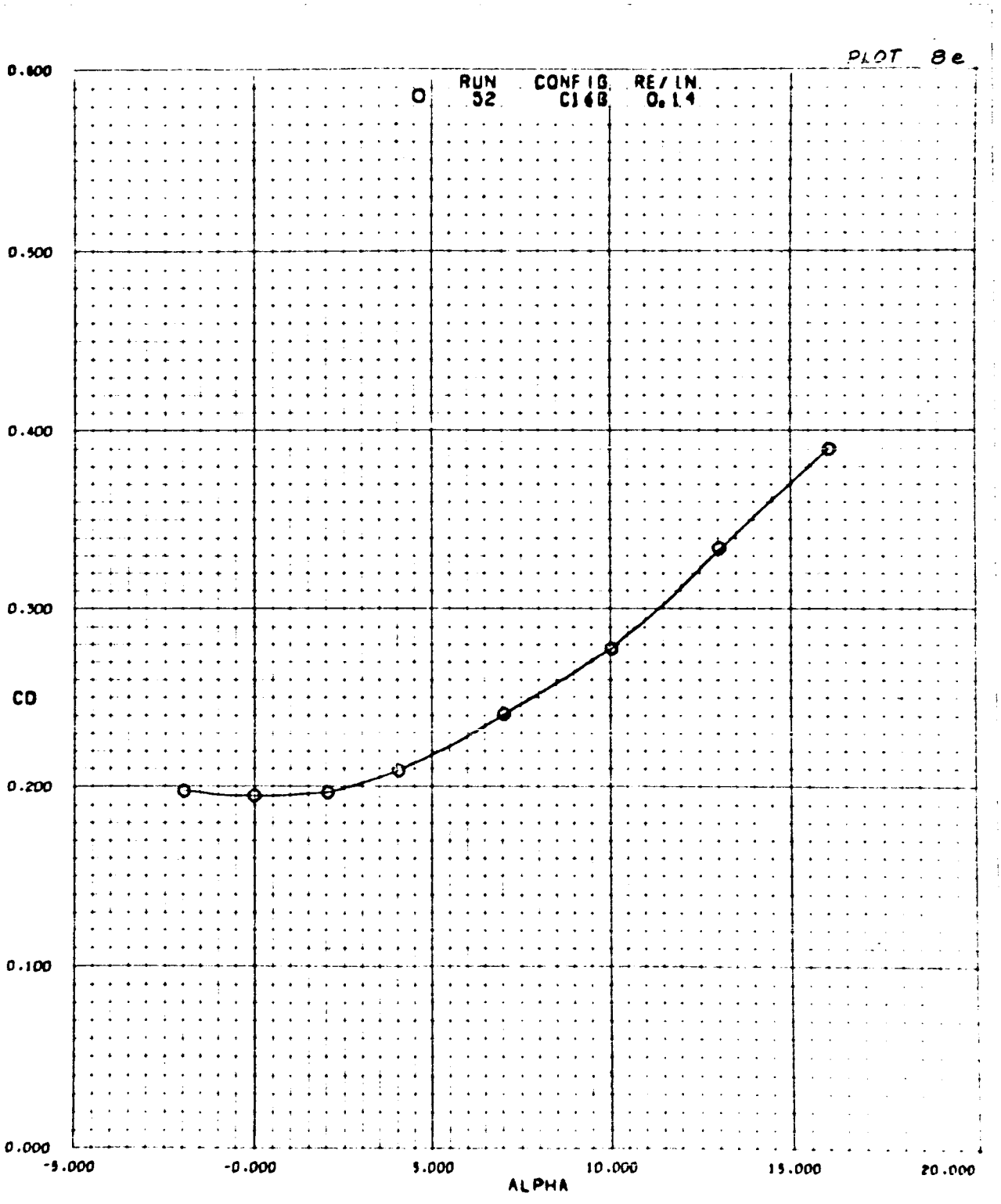
PLOT 8b

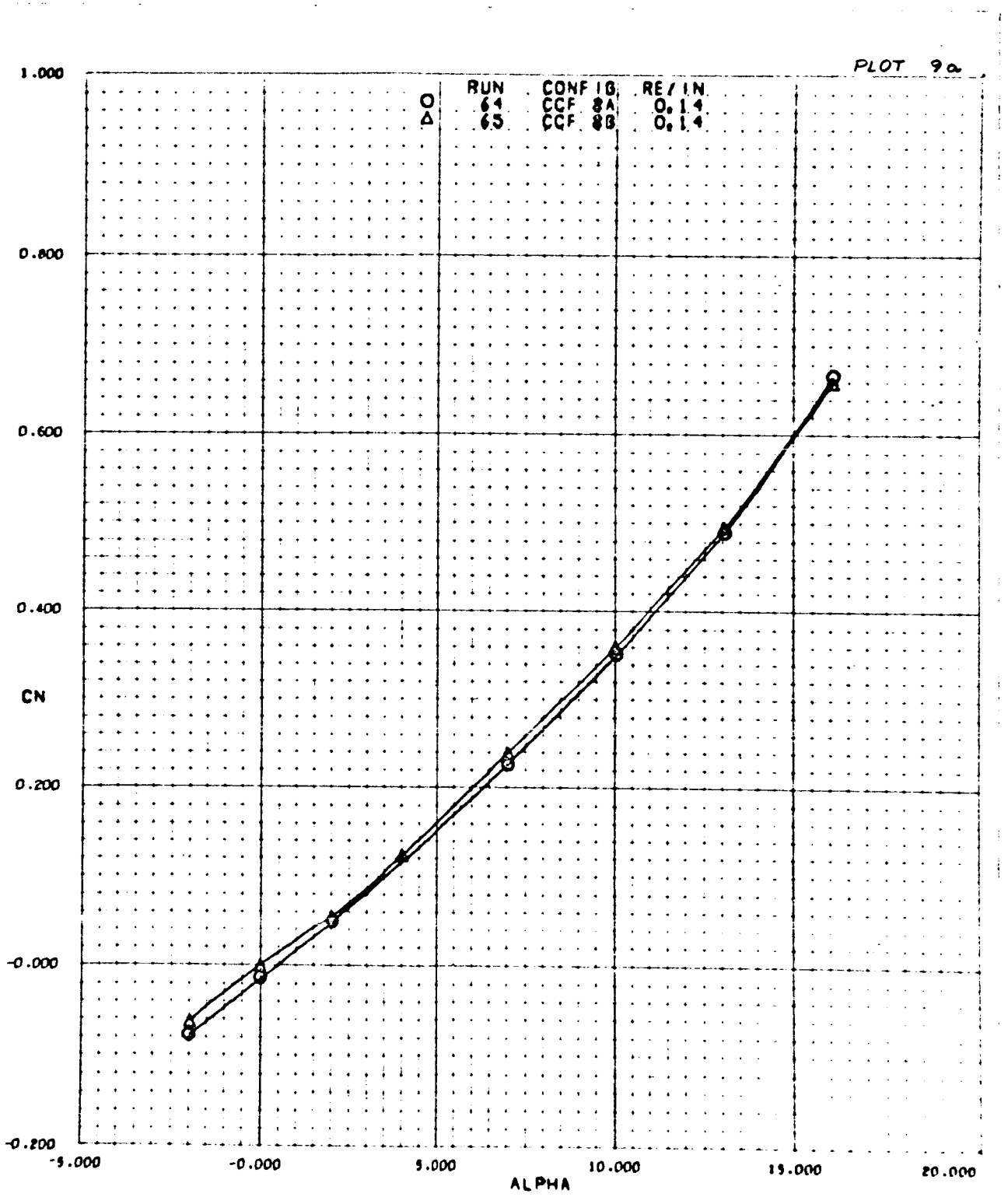

O RUN 52 CONFIG C16B RE/IN 0.14
0.100
0.050
-0.000
-0.050
CM
-0.100
-0.150
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 8c

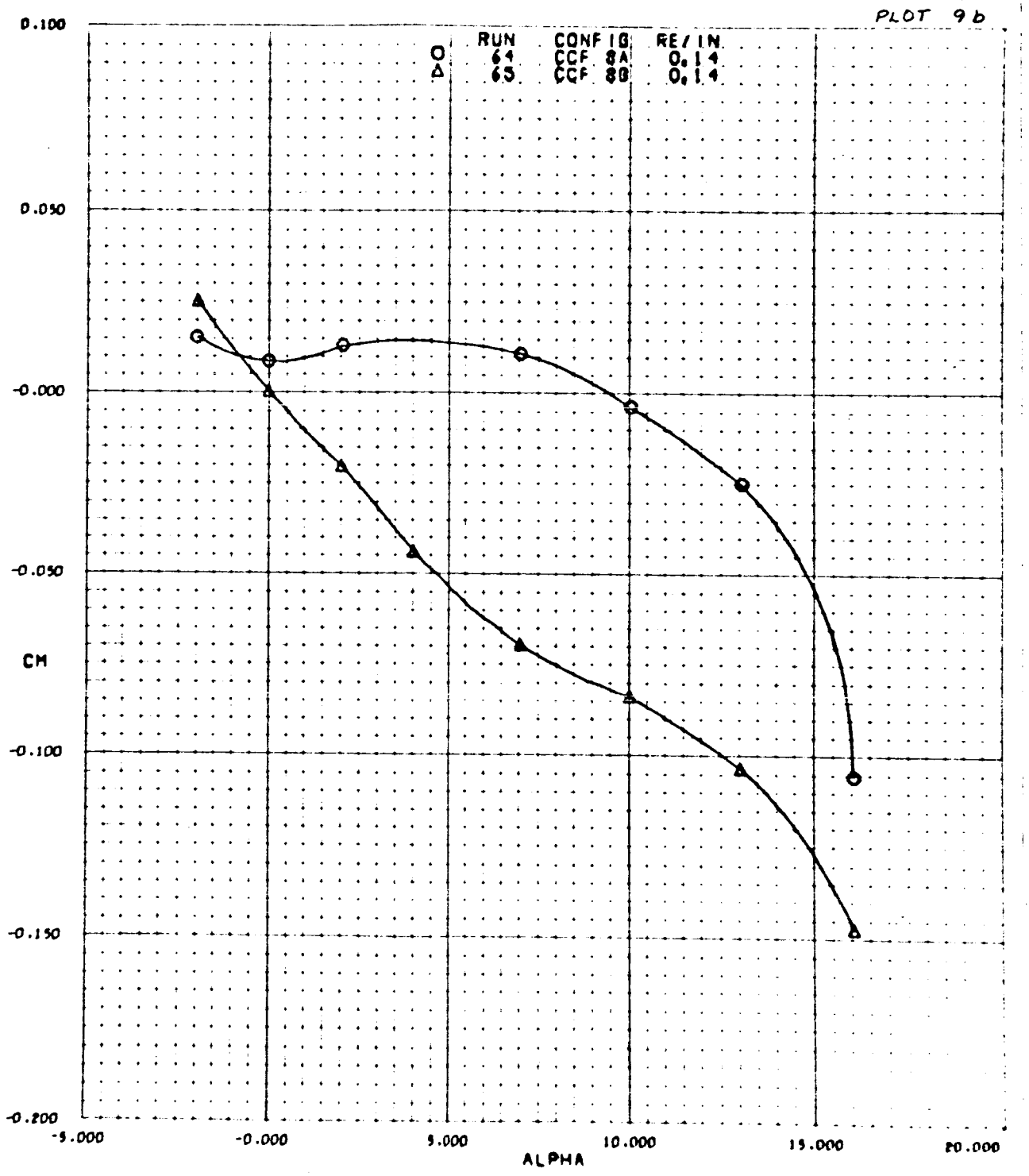

O RUN 52 CONFIG C16B RE/IN 0.14
0.300
0.250
0.200
0.150
CC
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA


PLOT Bd
O RUN 52 CONFIG C16B RE/IN 0.14
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

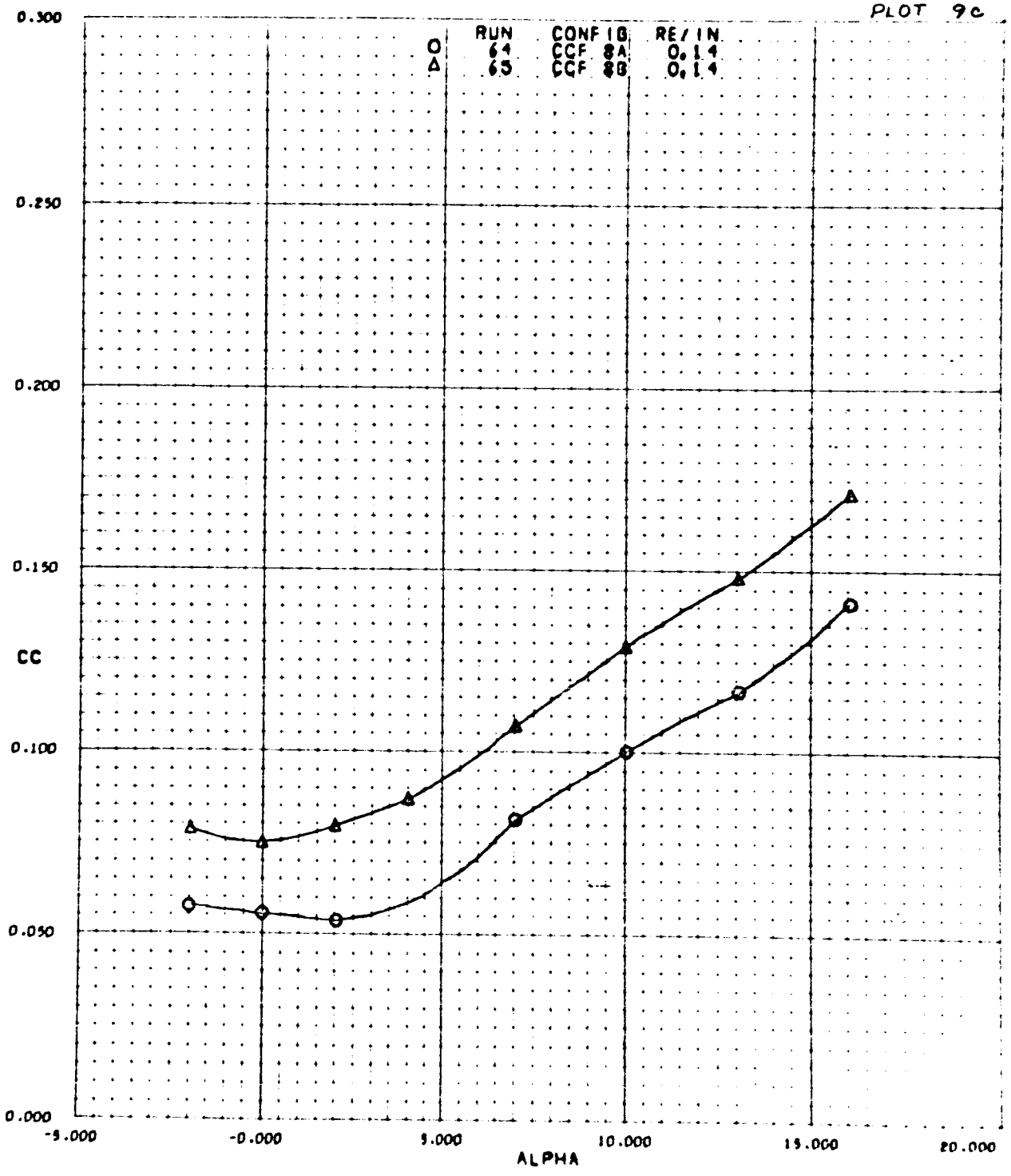

PLOT 8e
RUN 52
CONFIG C16B
RE/LN 0.14
0.600
0.500
0.400
0.300
0.200
0.100
0.000
CD
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA


PLOT 9a
RUN CONFIG RE/IN
○ 64 CCF 8A 0.14
△ 65 CCF 8B 0.14
1.000
0.800
0.600
0.400
0.200
-0.000
-0.200
CN
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

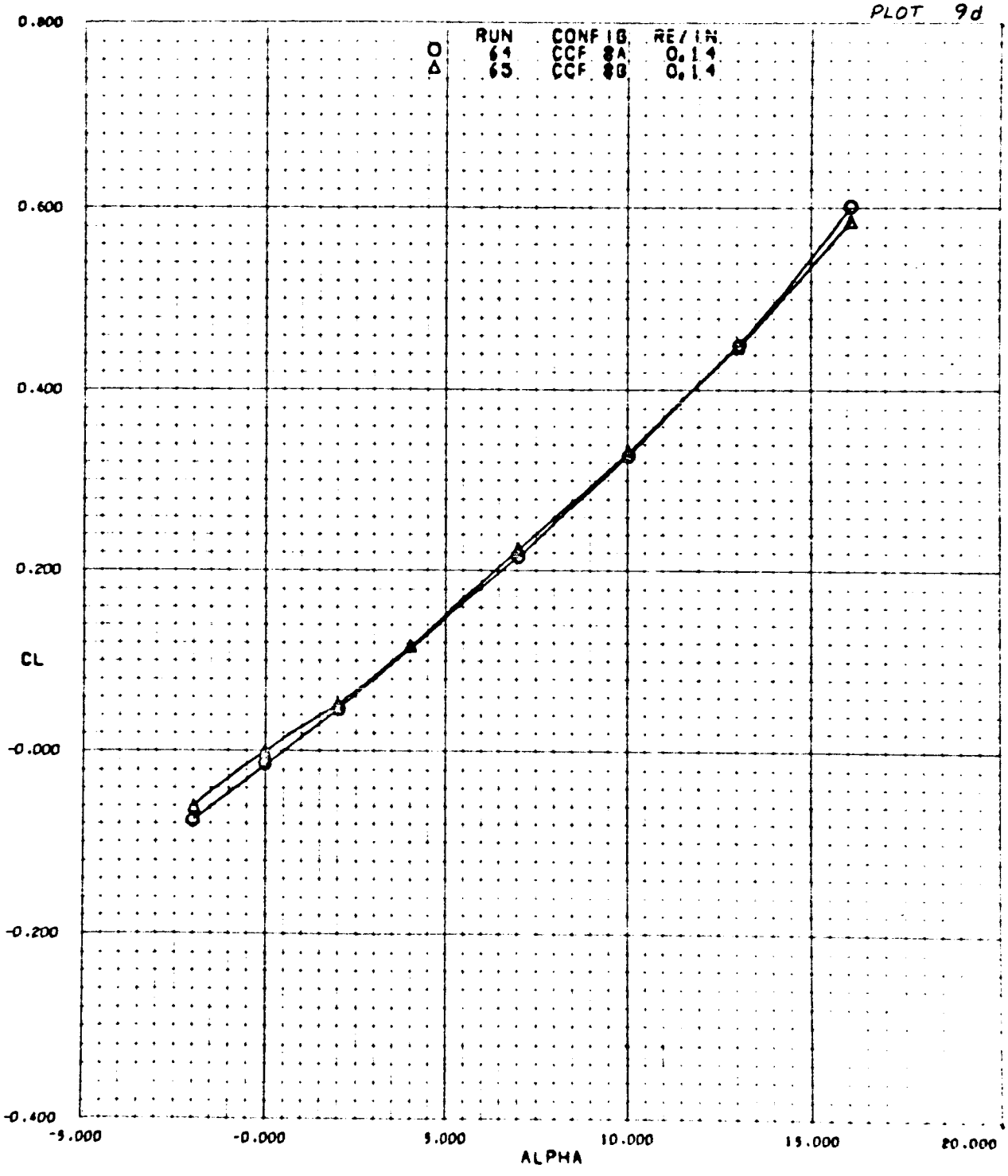
PLOT 9b


RUN CONFIG RE/IN.
○ 64 CCF 8A 0.14
△ 65 CCF 8B 0.14
0.100
0.050
-0.000
-0.050
-0.100
-0.150
-0.200
CM
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 9c

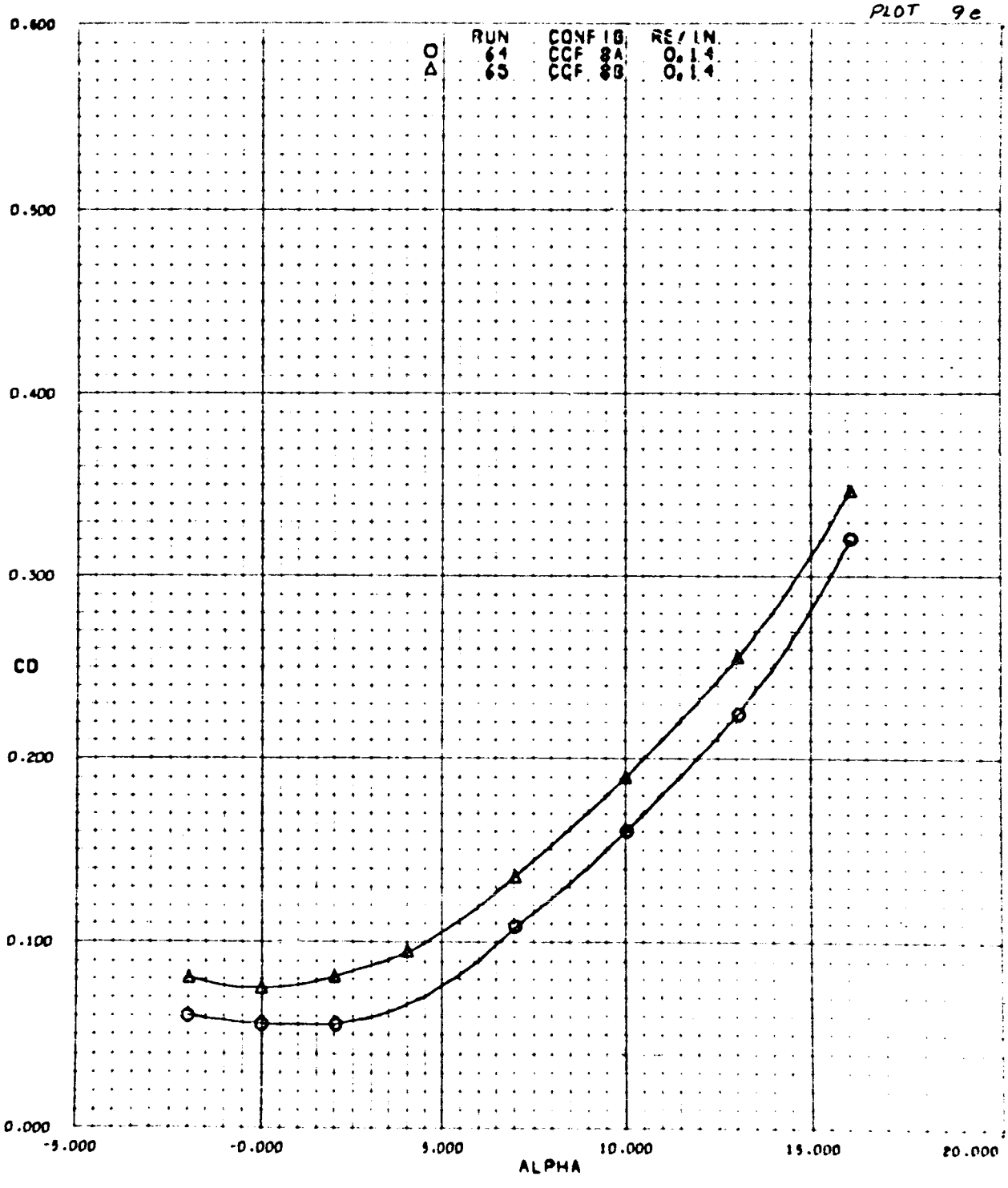

RUN CONFIG RE/IN
○ 64 CCF 8A 0.14
△ 65 CCF 8B 0.14
0.300
0.250
0.200
0.150
CC
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 9d

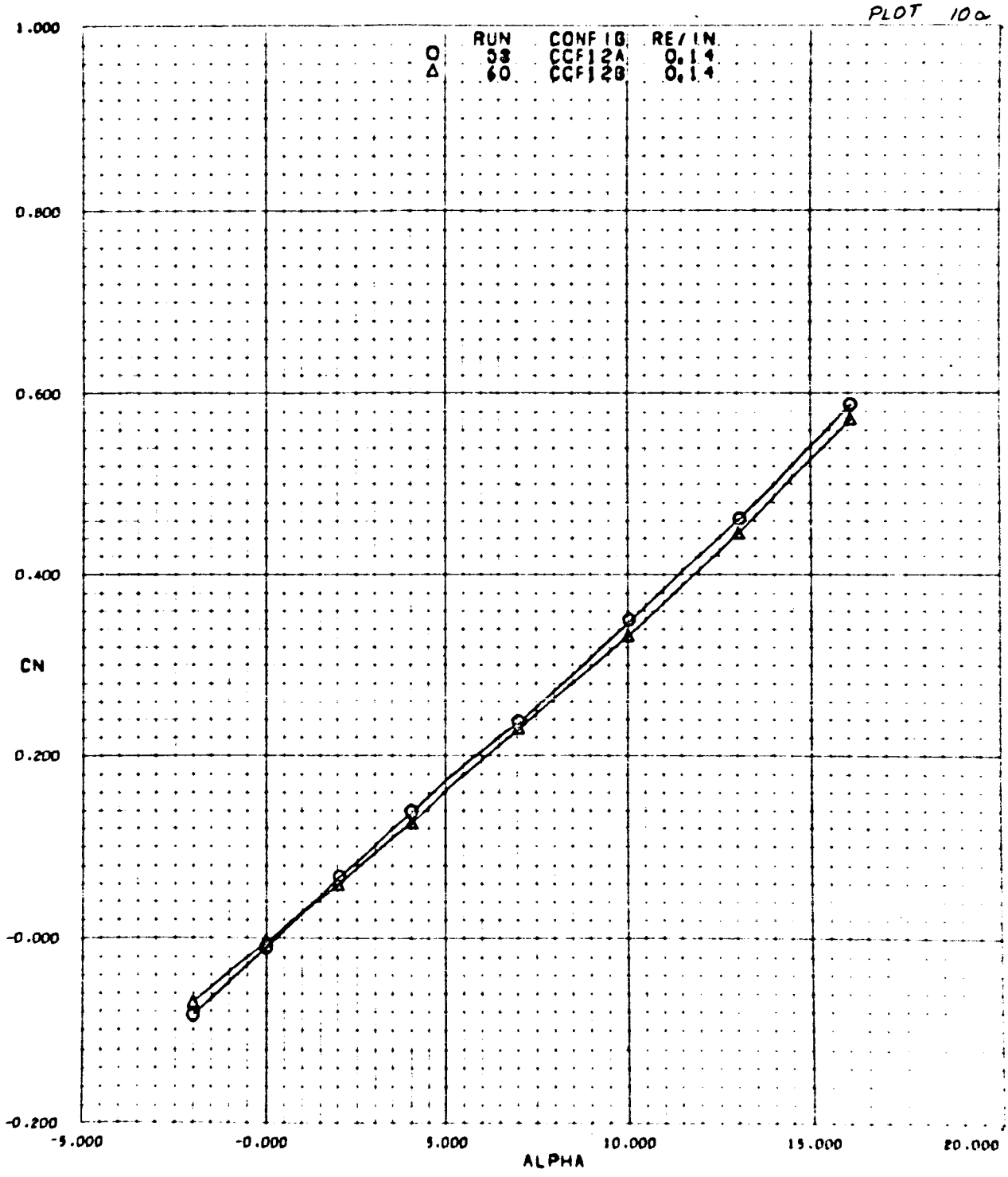

RUN CONFIG. RE/IN.
○ 64 CCF 8A 0.14
△ 65 CCF 8B 0.14
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

44

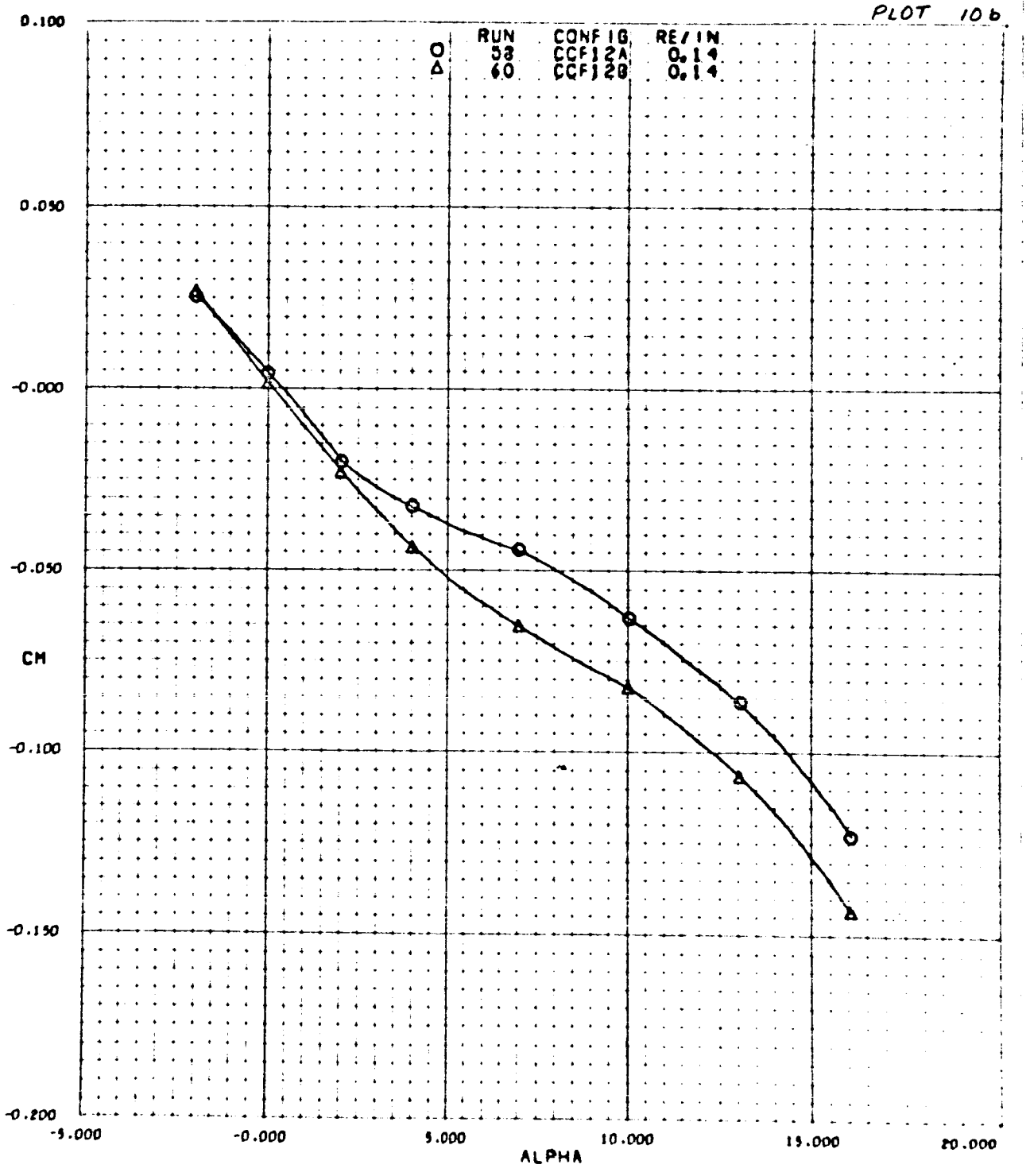
PLOT 9e


RUN CONFIG RE/IN.
○ 61 CCF 8A 0.14
△ 65 CCF 8B 0.14
0.600
0.500
0.400
0.300
CD
0.200
0.100
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

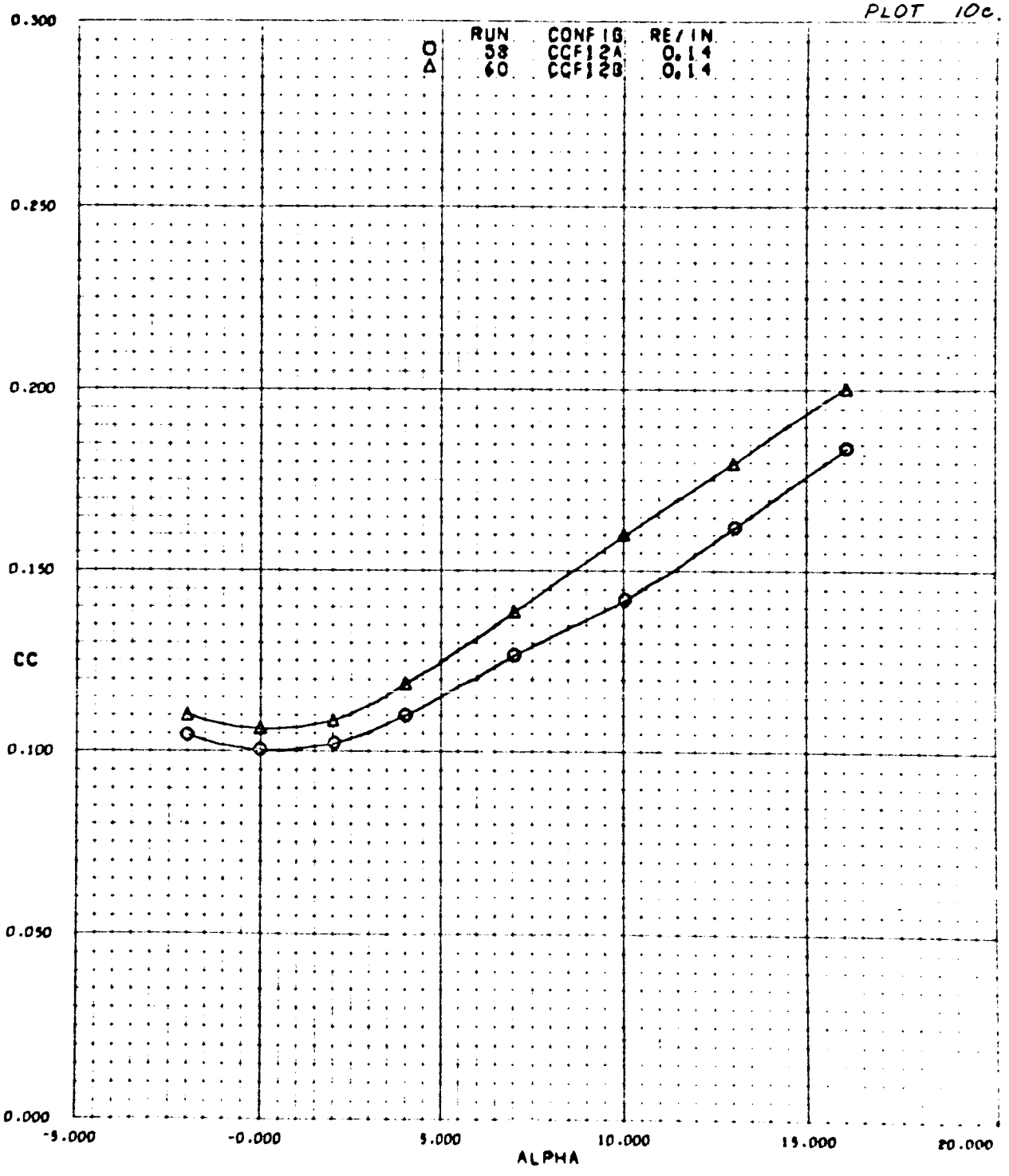
PLOT 10a


RUN CONFIG RE/IN
O 58 CCF12A 0.14
Δ 60 CCF12B 0.14
1.000
0.800
0.600
0.400
0.200
-0.000
-0.200
CN
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

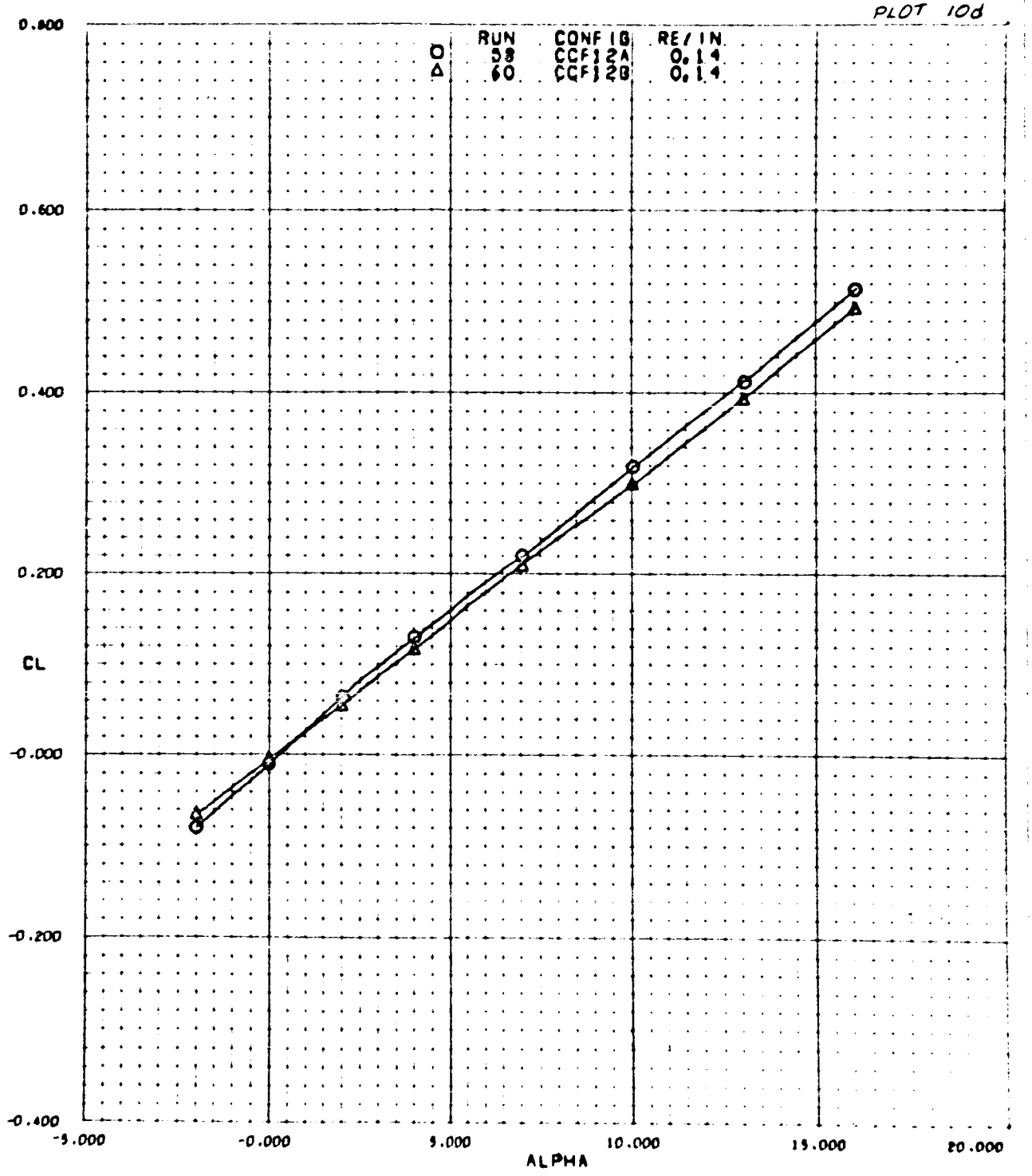
PLOT 10b


RUN CONFIG RE/IN
O 58 CCF12A 0.14
Δ 60 CCF12B 0.14
0.100
0.050
-0.000
-0.050
CM
-0.100
-0.150
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

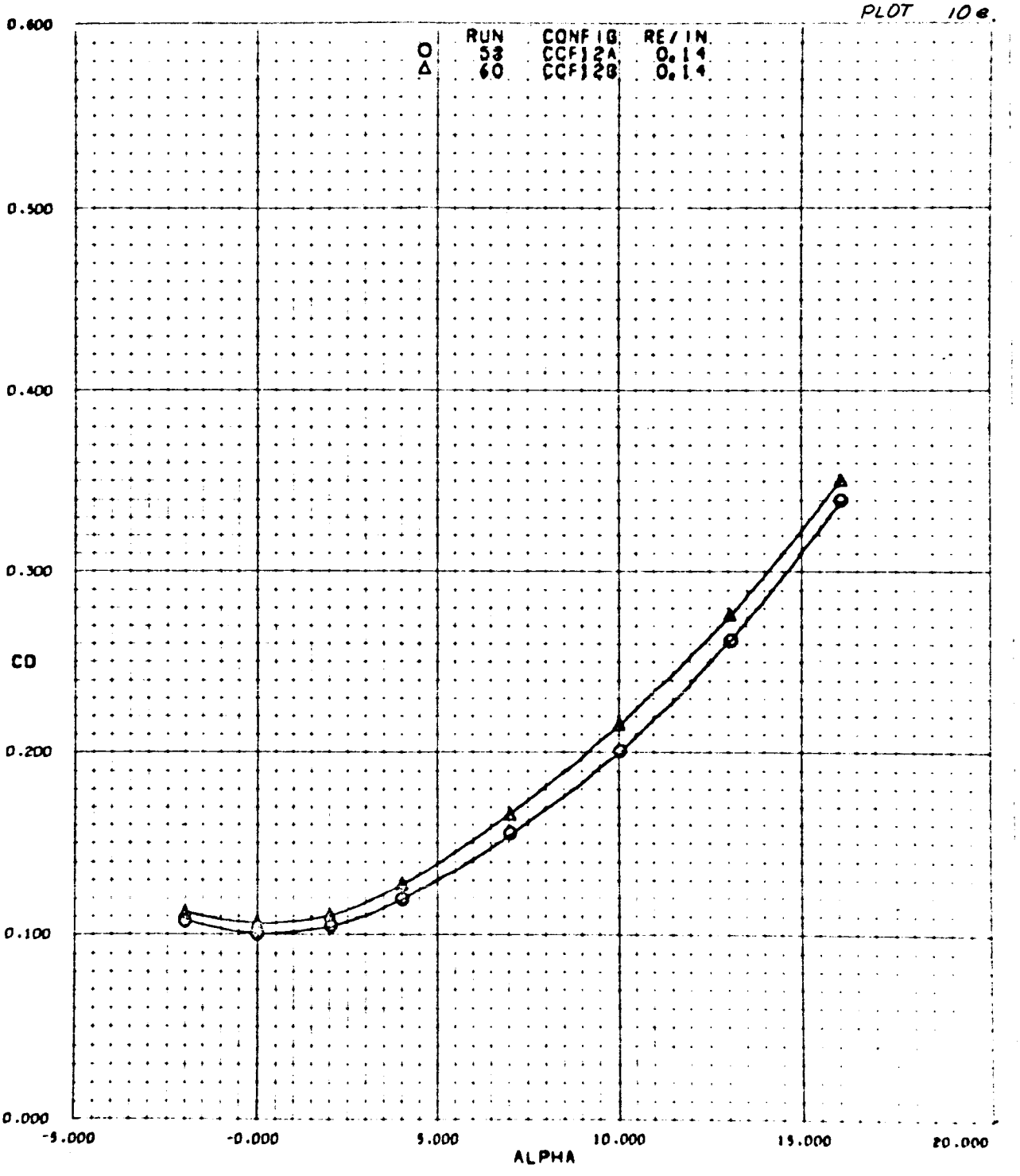
PLOT 10c.


RUN CONFIG RE/IN
O 58 CCF12A 0.14
Δ 60 CCF12B 0.14
0.300
0.250
0.200
0.150
0.100
0.050
0.000
CC
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 10d

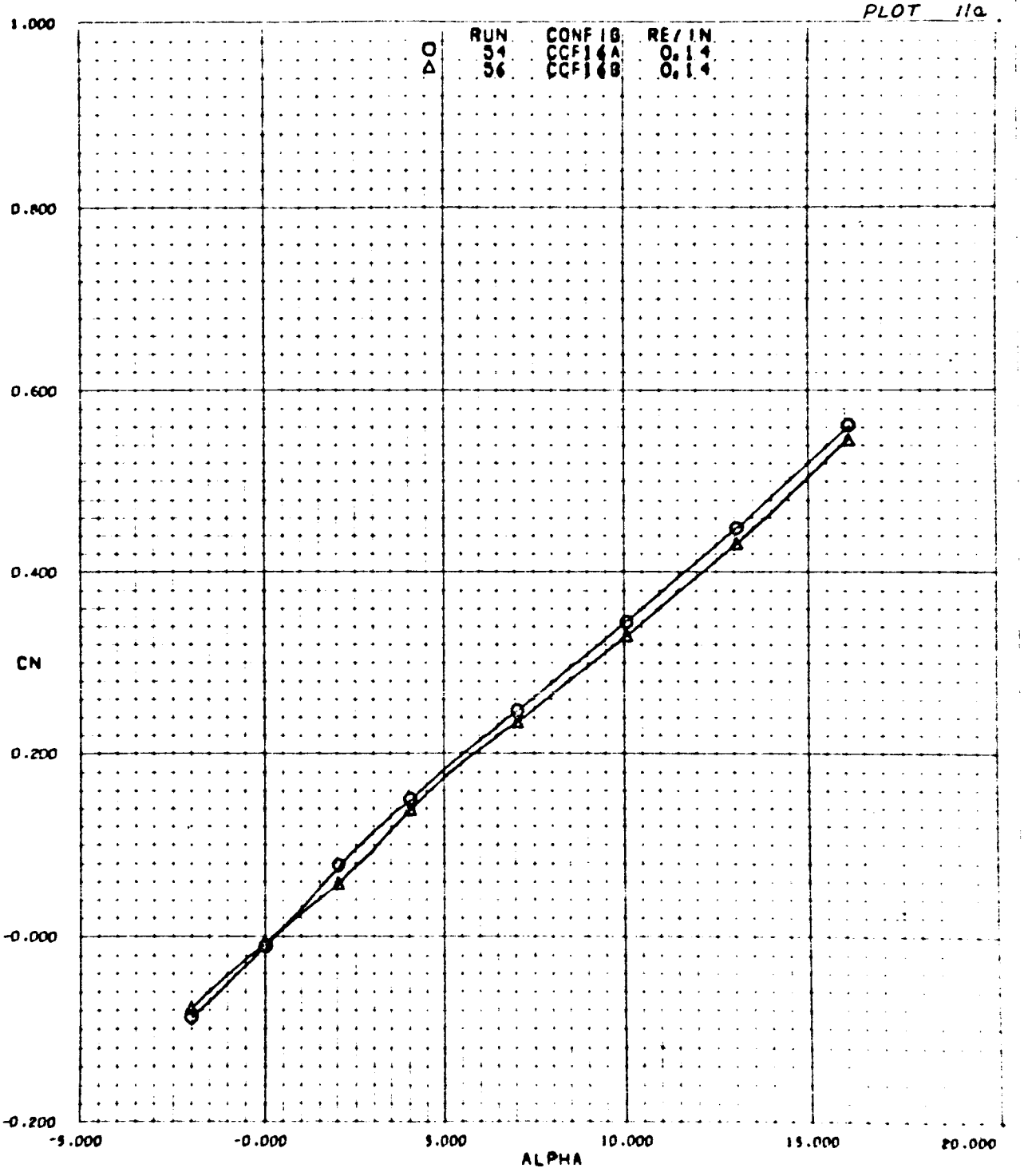

RUN CONFIG RE/IN
O 58 CCF12A 0.14
Δ 60 CCF12B 0.14
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 10e.


RUN CONFIG RE/IN.
○ 58 CCF12A 0.14
△ 60 CCF12B 0.14
0.600
0.500
0.400
0.300
CD
0.200
0.100
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

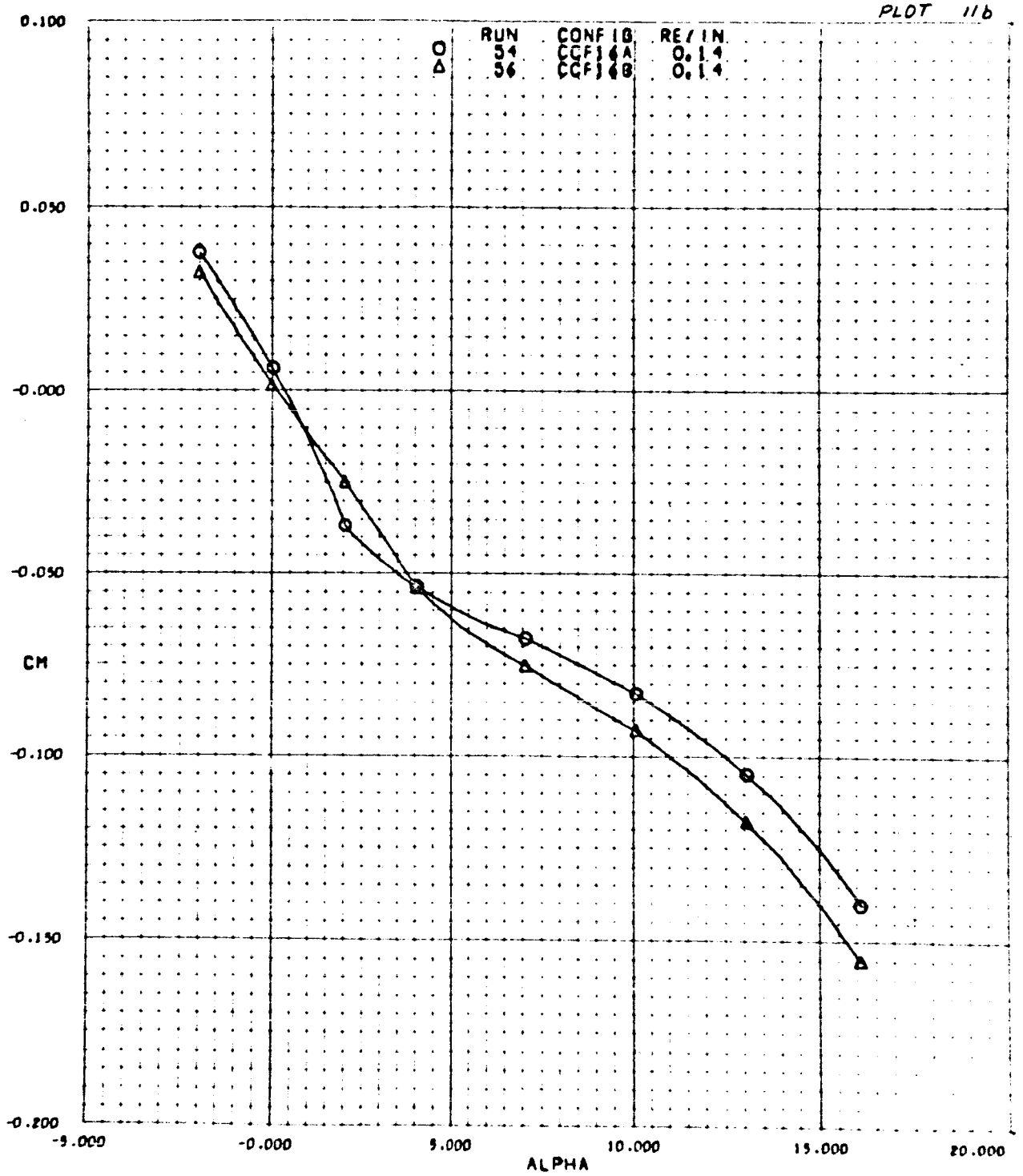
50

PLOT 11a


RUN CONFIG RE/IN
O 54 CCF16A 0.14
Δ 56 CCF16B 0.14
1.000
0.800
0.600
0.400
0.200
-0.000
-0.200
CN
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

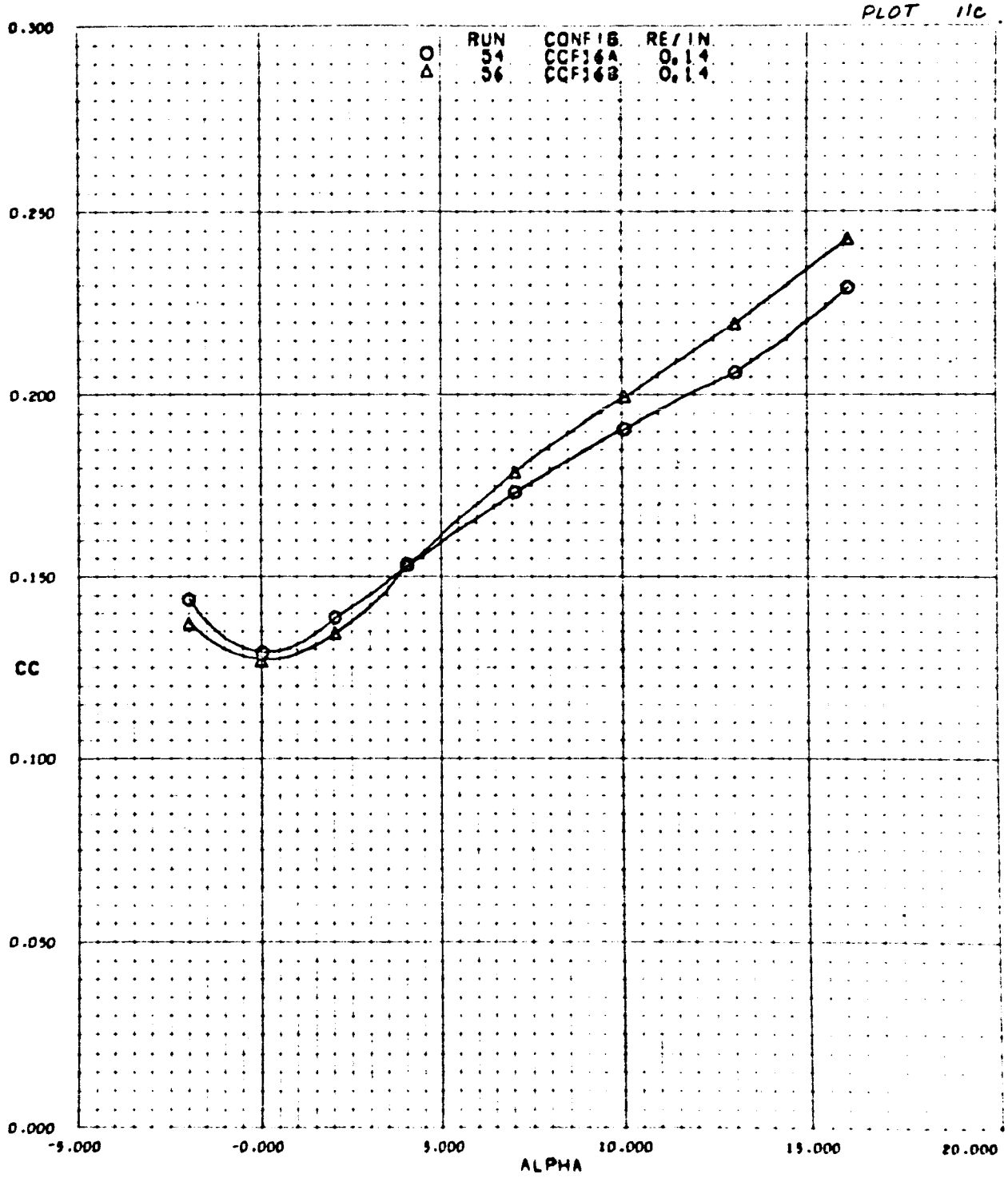
51

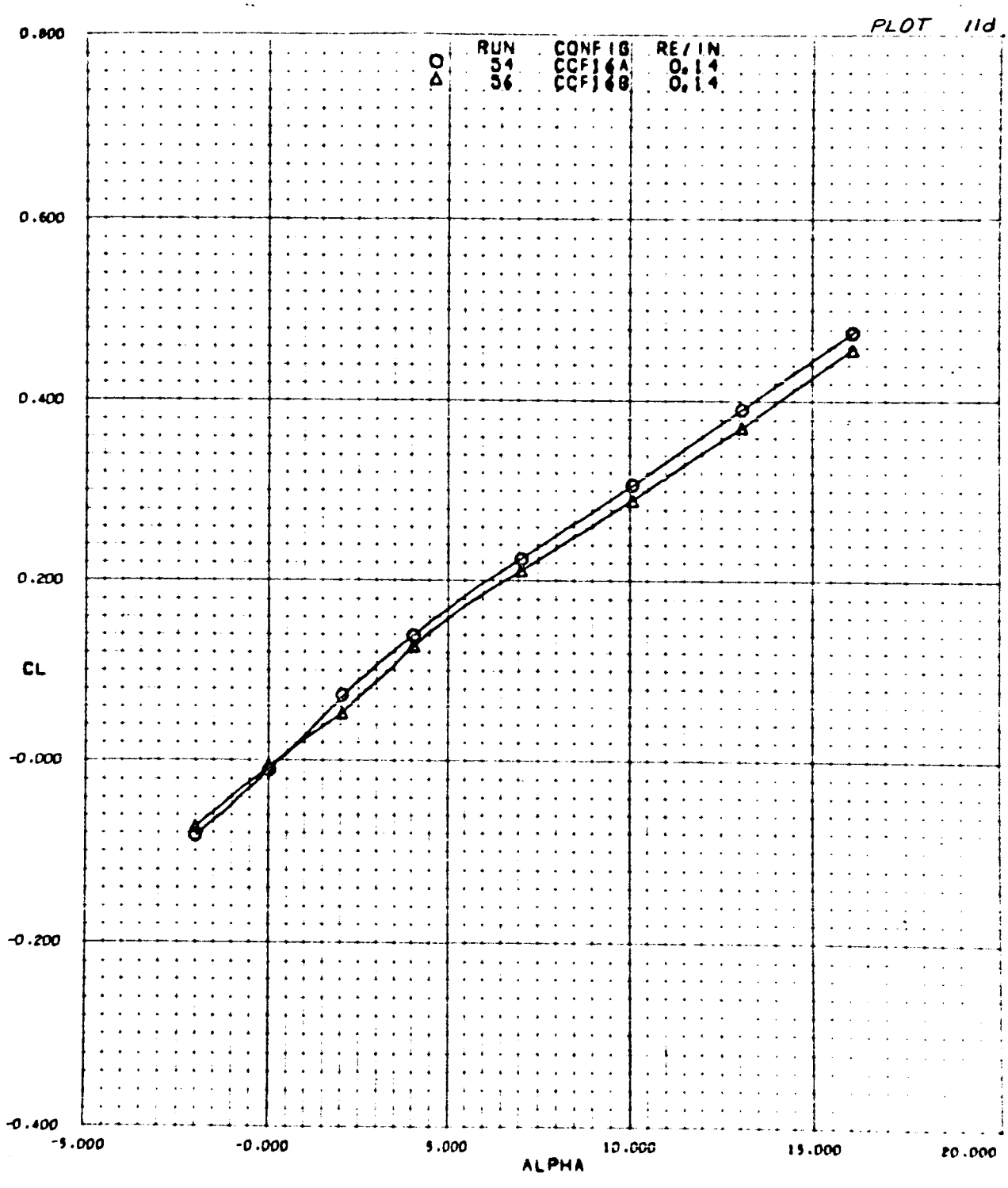
PLOT 11b


RUN CONFIG RE/IN
O 54 CCF16A 0.14
Δ 56 CCF16B 0.14
0.100
0.050
-0.000
-0.050
CM
-0.100
-0.150
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

52

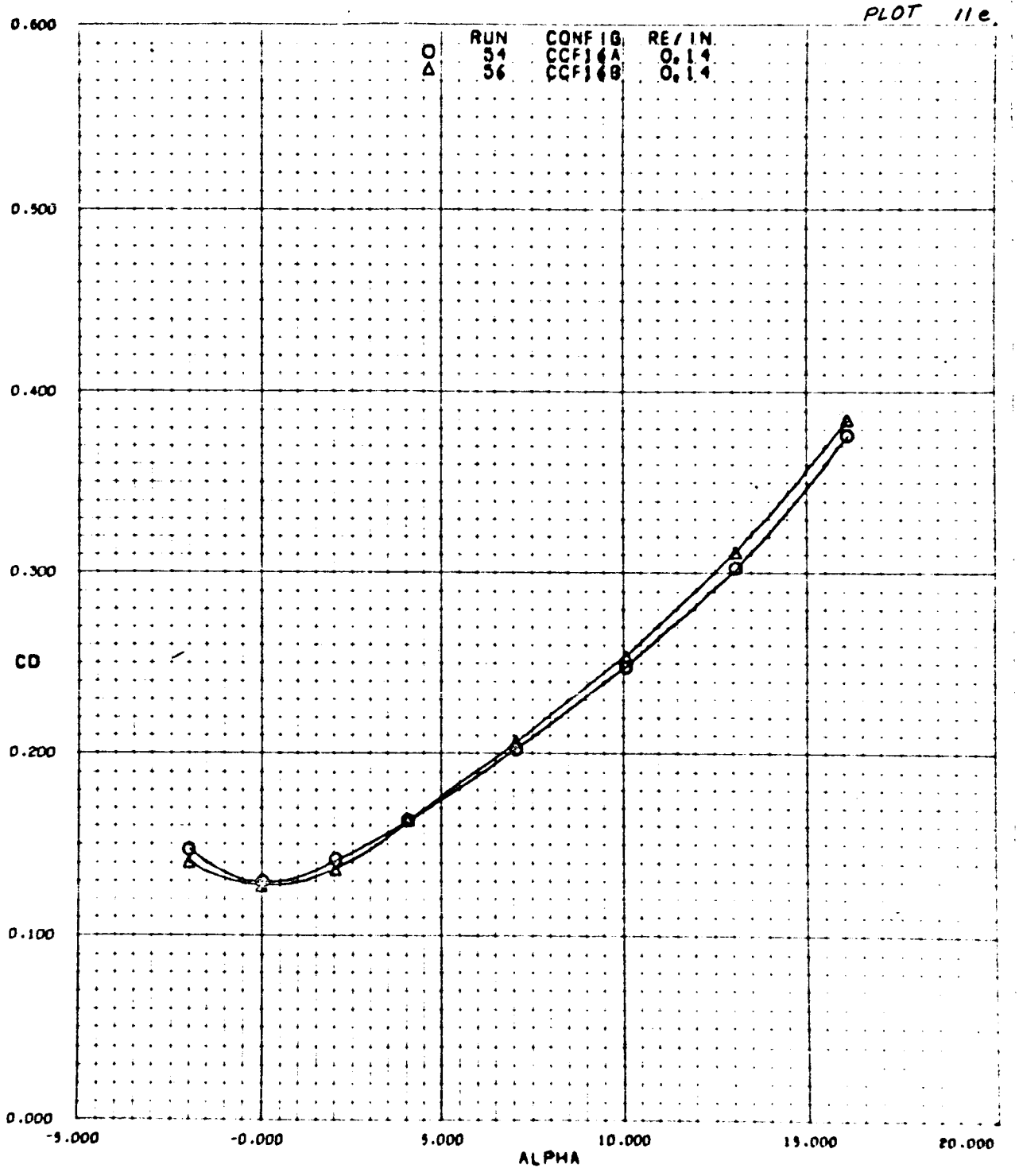
PLOT 11c


RUN CONFIG. RE/IN
O 54 CCF16A 0.14
Δ 56 CCF16B 0.14
0.300
0.250
0.200
0.150
0.100
0.050
0.000
CC
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA


PLOT 11d
RUN CONFIG RE/IN
O 54 CCF16A 0.14
Δ 56 CCF16B 0.14
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

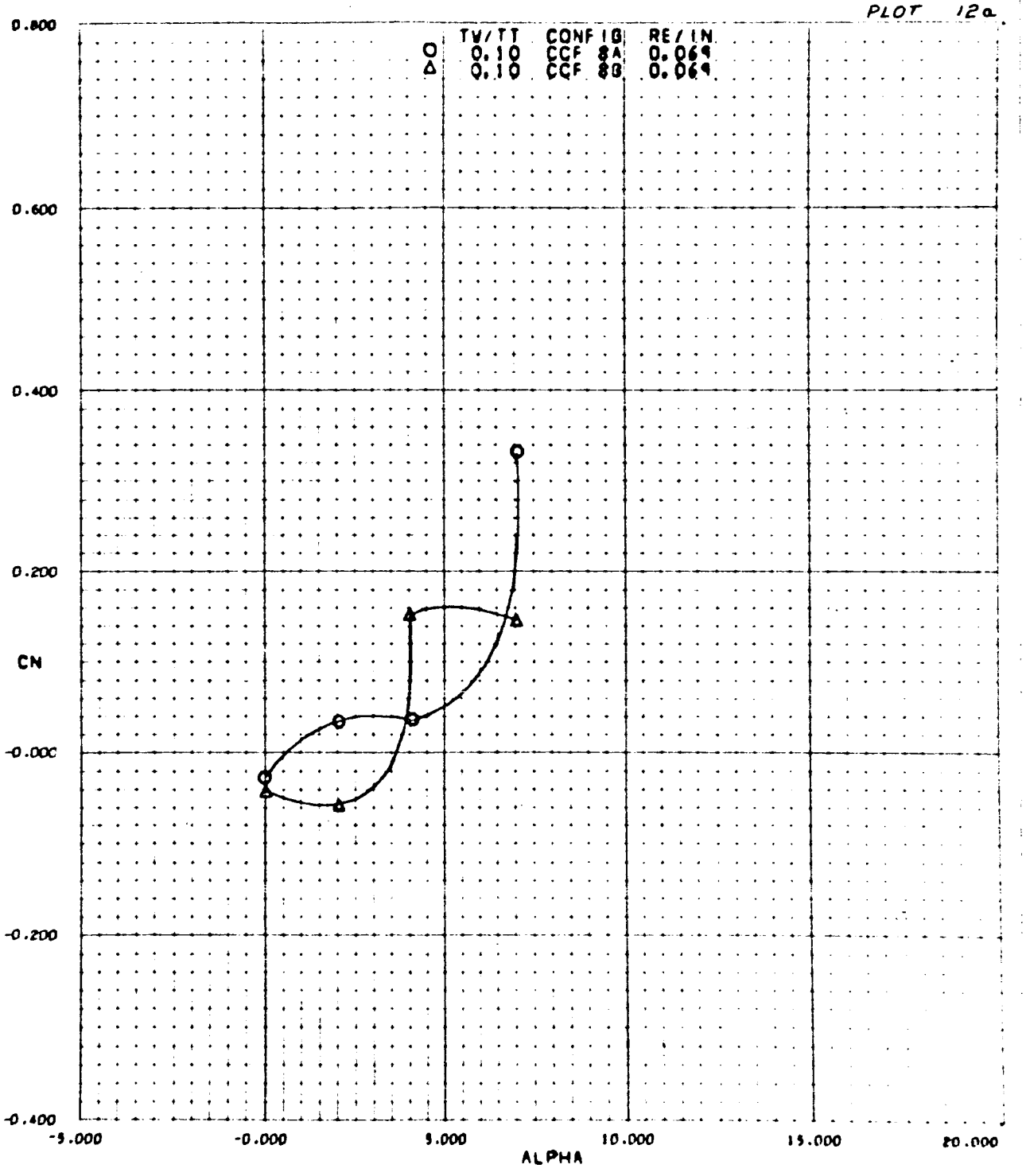
54

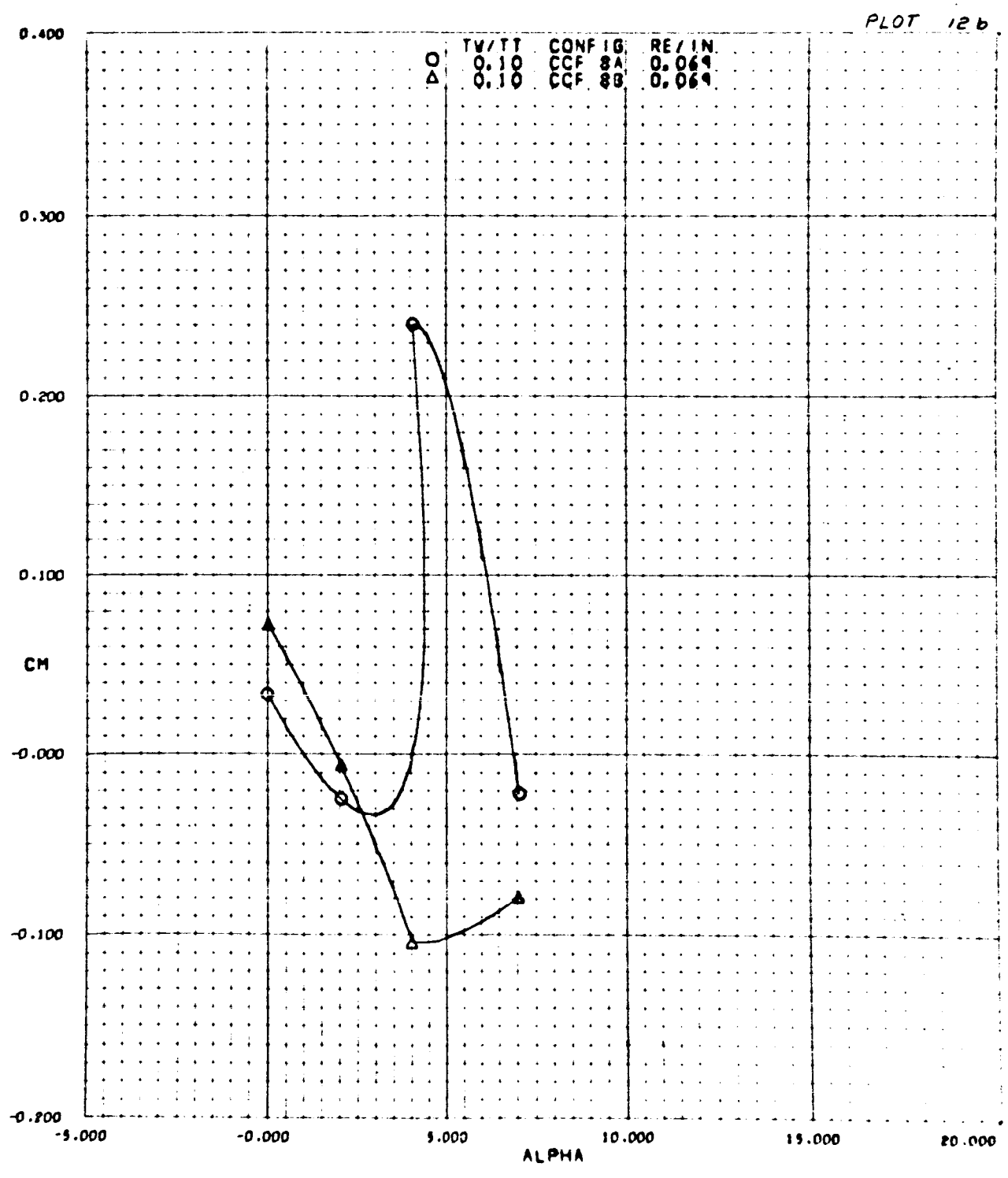
PLOT 11e.


RUN CONFIG RE/IN.
○ 54 CCF16A 0.14
△ 56 CCF16B 0.14
0.600
0.500
0.400
0.300
CD
0.200
0.100
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

55

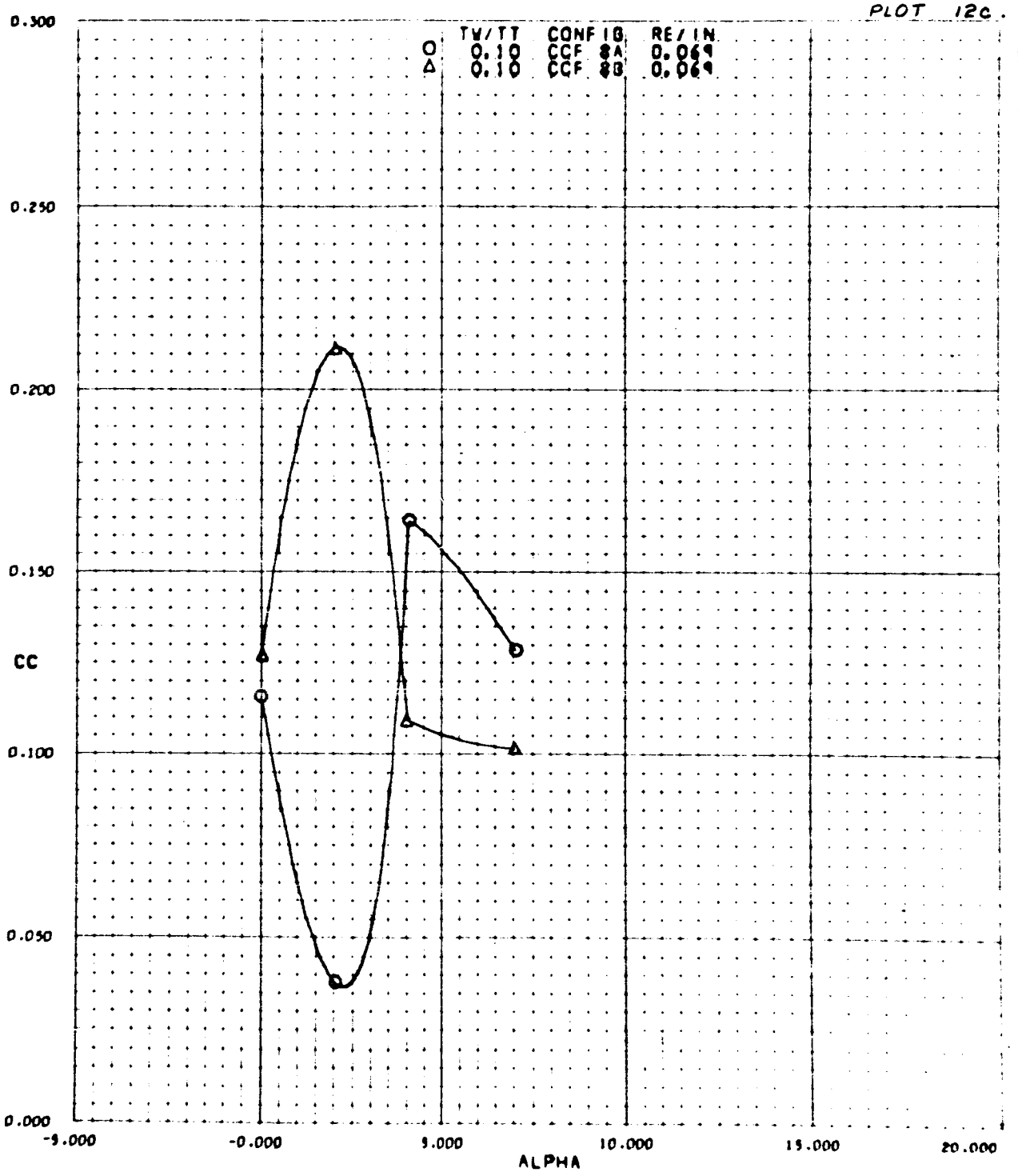
PLOT 12a

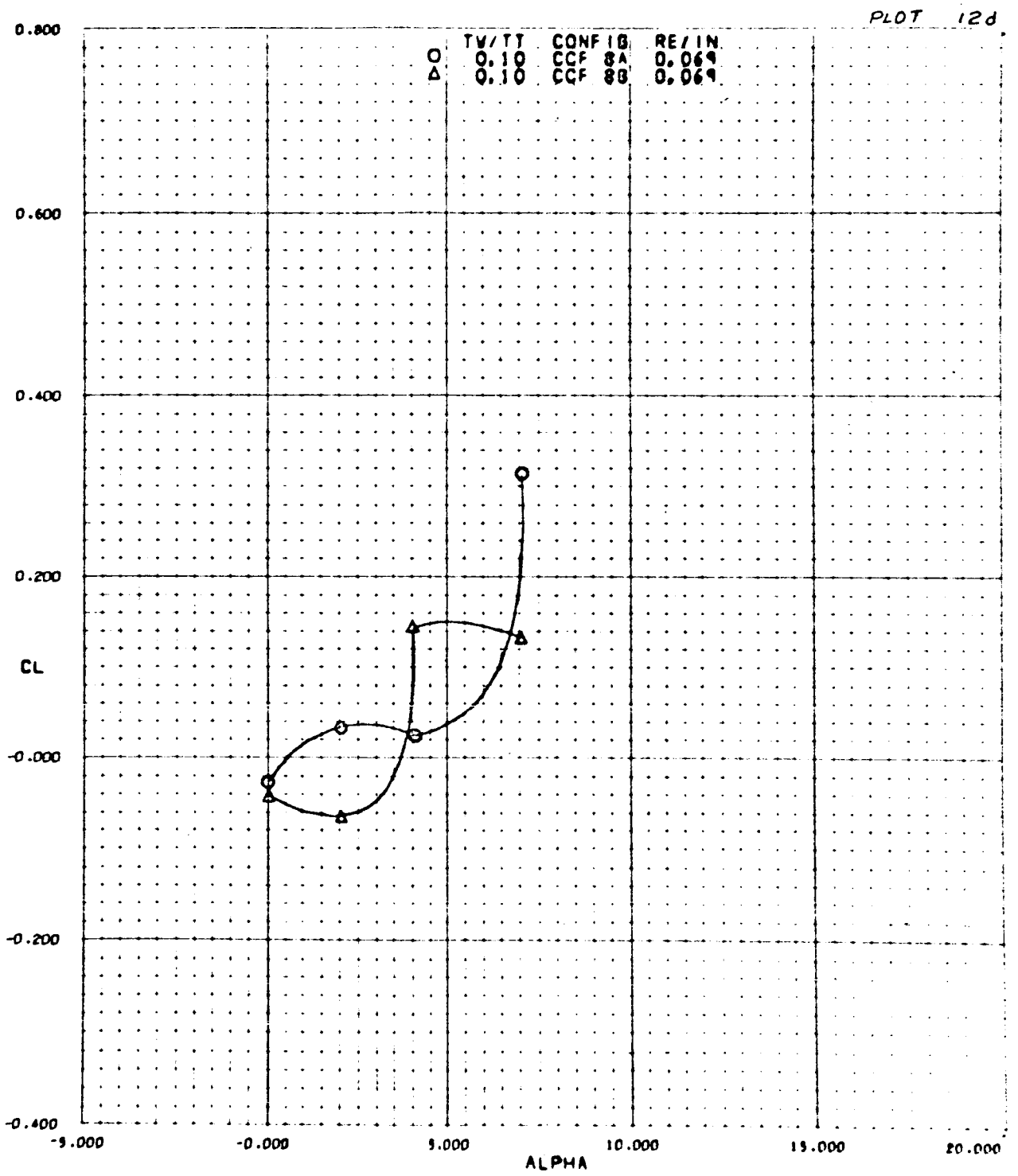

TW/TT CONFIG RE/IN
○ 0.10 CCF 8A 0.069
△ 0.10 CCF 8B 0.069
0.800
0.600
0.400
0.200
CN
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

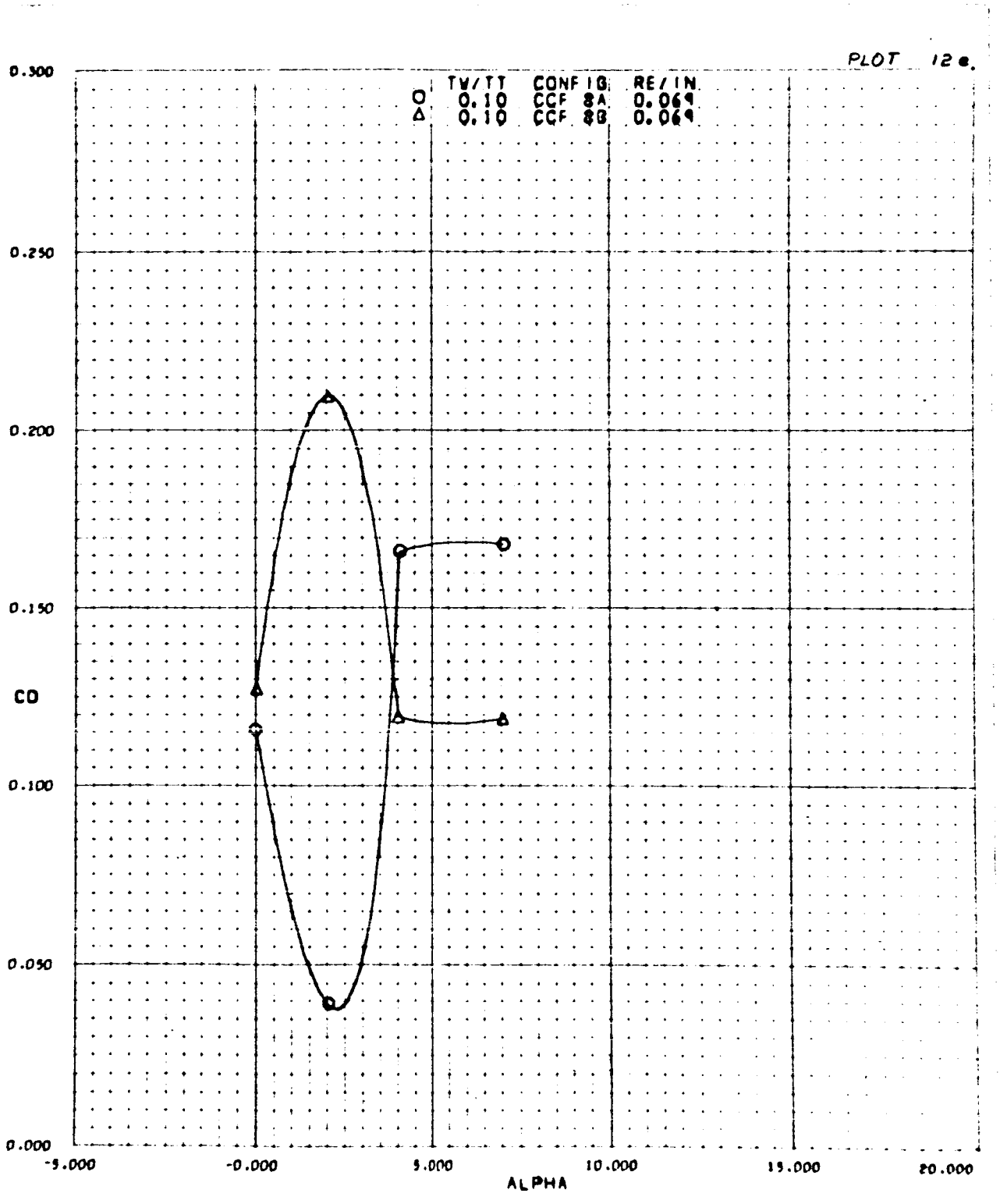

PLOT 12b
TW/TT CONFIG RE/IN.
O 0.10 CCF 8A 0.069
Δ 0.10 CCF 8B 0.069
0.400
0.300
0.200
0.100
CM
-0.000
-0.100
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

57

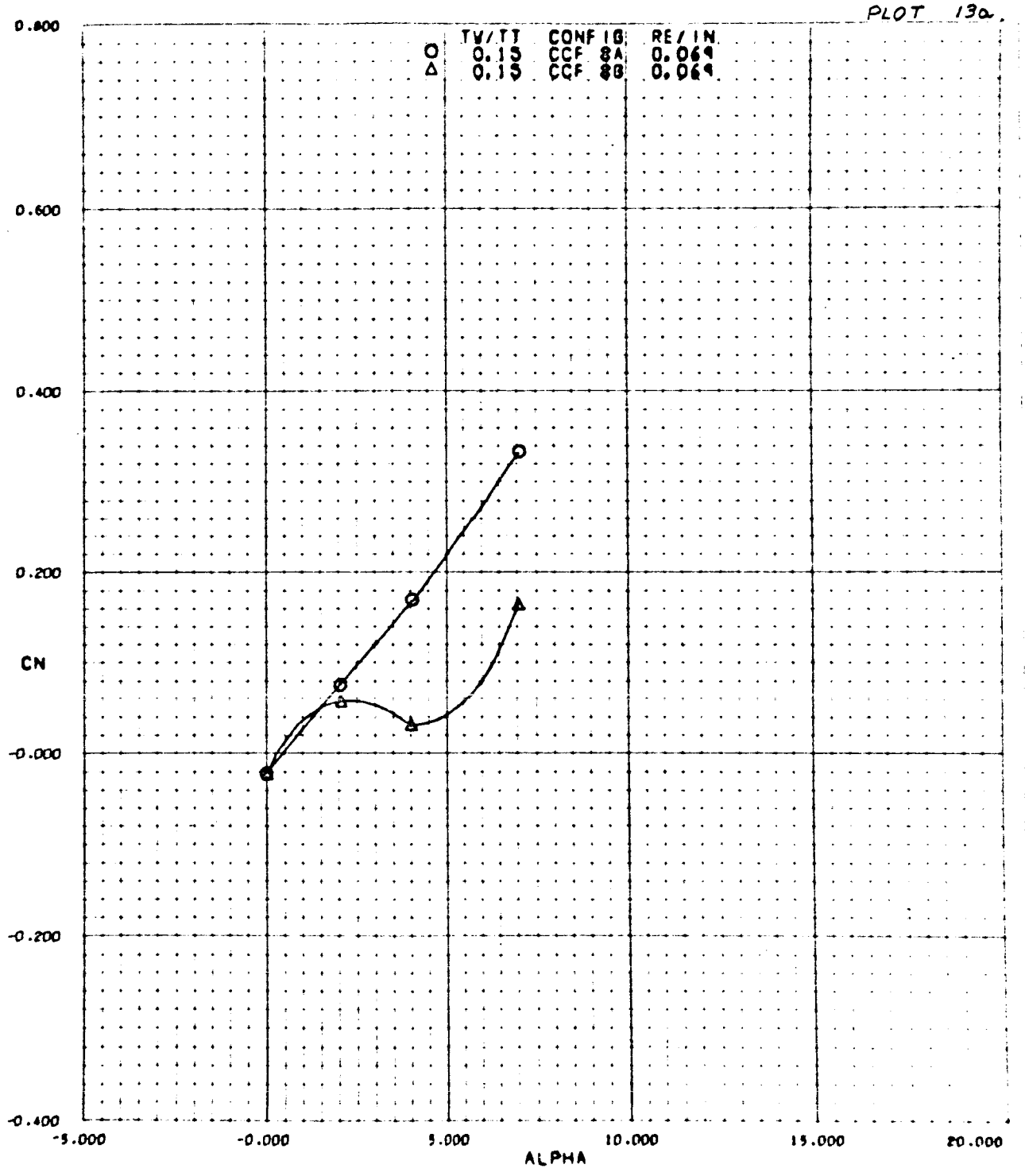
PLOT 12c.


TW/TT CONFIG RE/IN
O 0.10 CCF 8A 0.069
Δ 0.10 CCF 8B 0.069
0.300
0.250
0.200
0.150
CC
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA


PLOT 12d
TV/TT CONFIG RE/IN
O 0.10 CCF 8A 0.069
Δ 0.10 CCF 8B 0.069
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

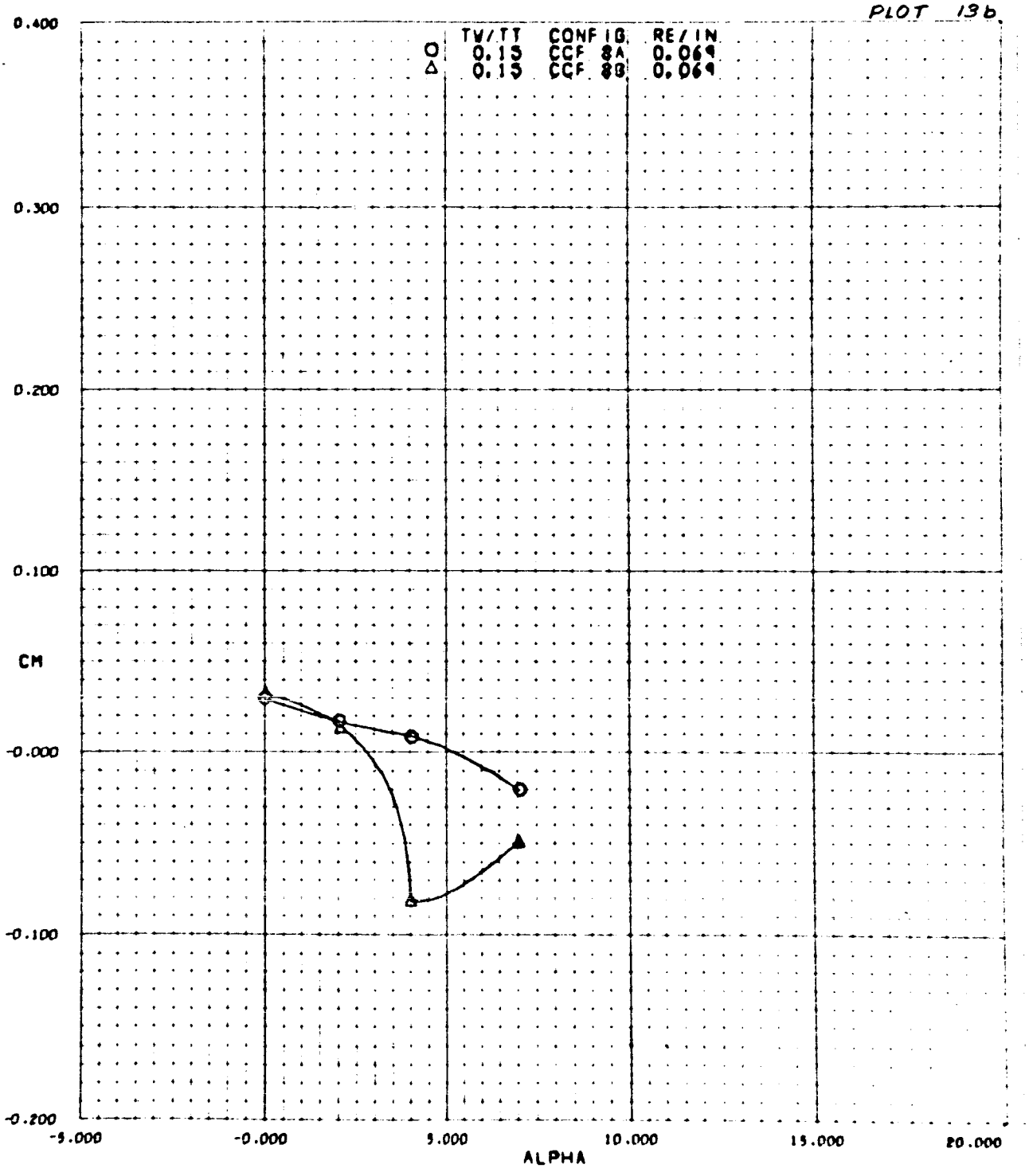

PLOT 12 e.
TW/TT CONFIG RE/IN
0 0.10 CCF 8A 0.069
Δ 0.10 CCF 8B 0.069
0.300
0.250
0.200
0.150
CD
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 13a.

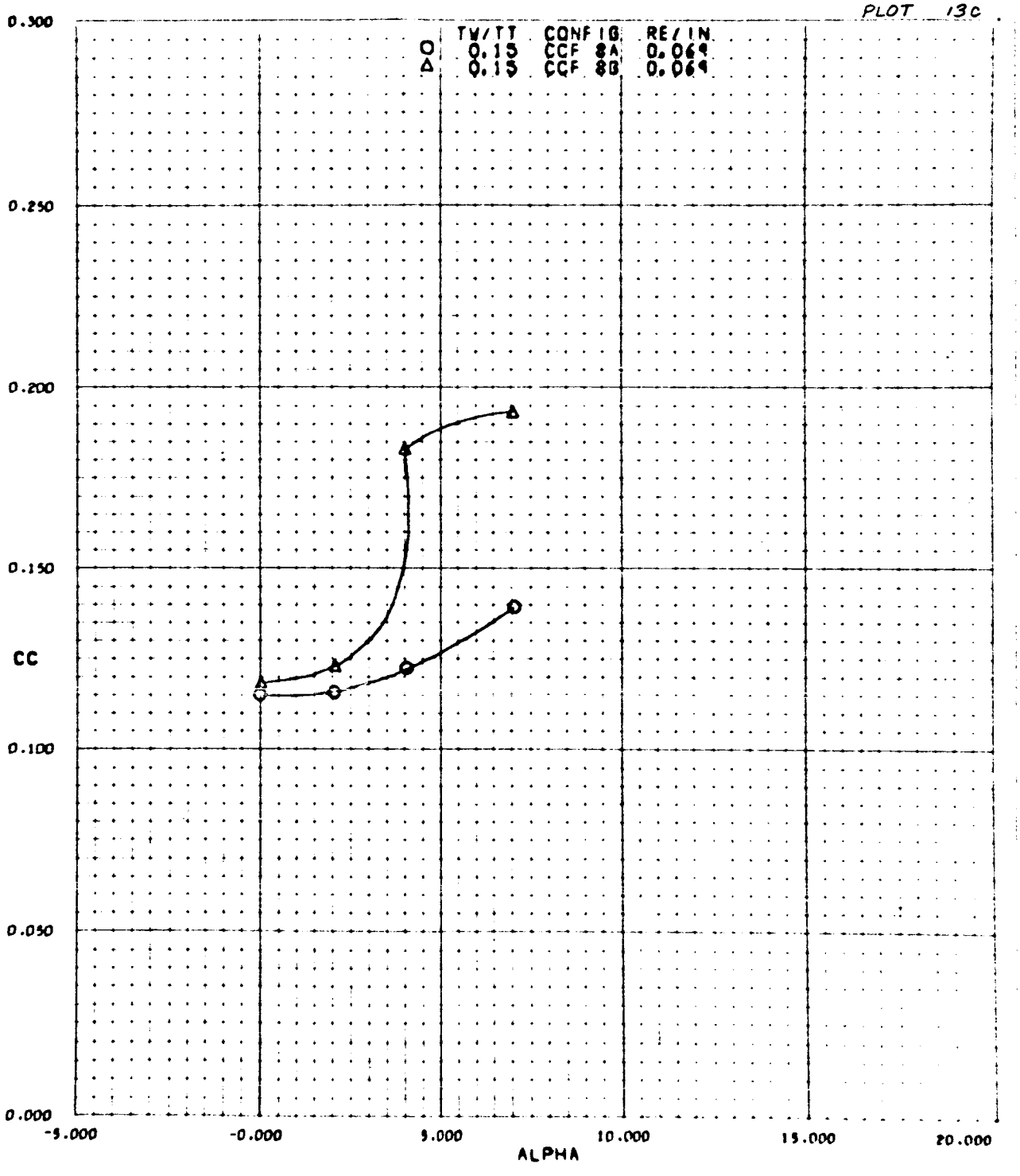

TV/TT CONFIG RE/IN
O 0.15 CCF 8A 0.069
Δ 0.15 CCF 8B 0.069
0.800
0.600
0.400
0.200
CN
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

61

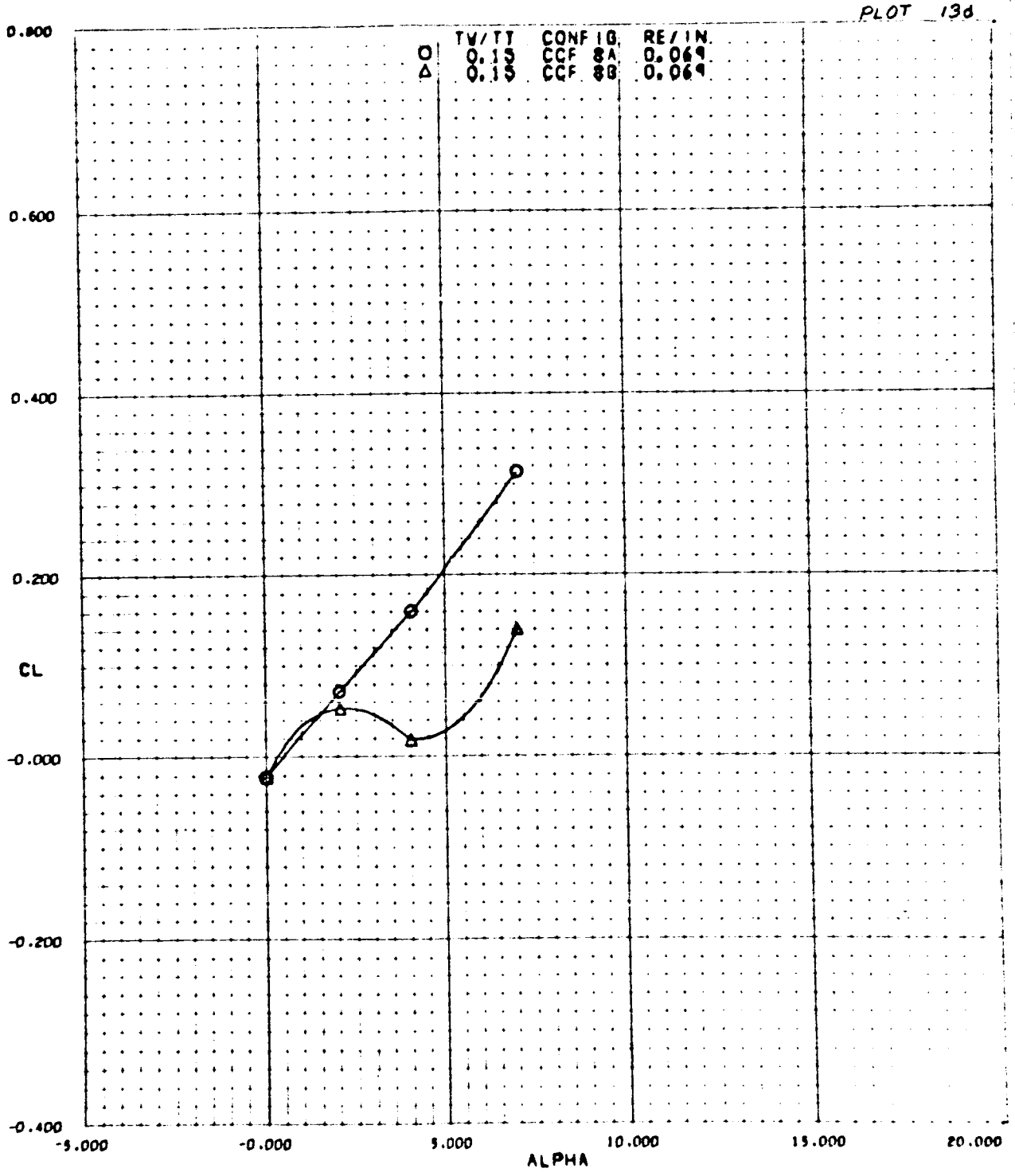
PLOT 13b


TW/TT CONFIG. RE/IN
○ 0.15 CCF 8A 0.069
△ 0.15 CCF 8B 0.069
0.400
0.300
0.200
0.100
CM
-0.000
-0.100
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

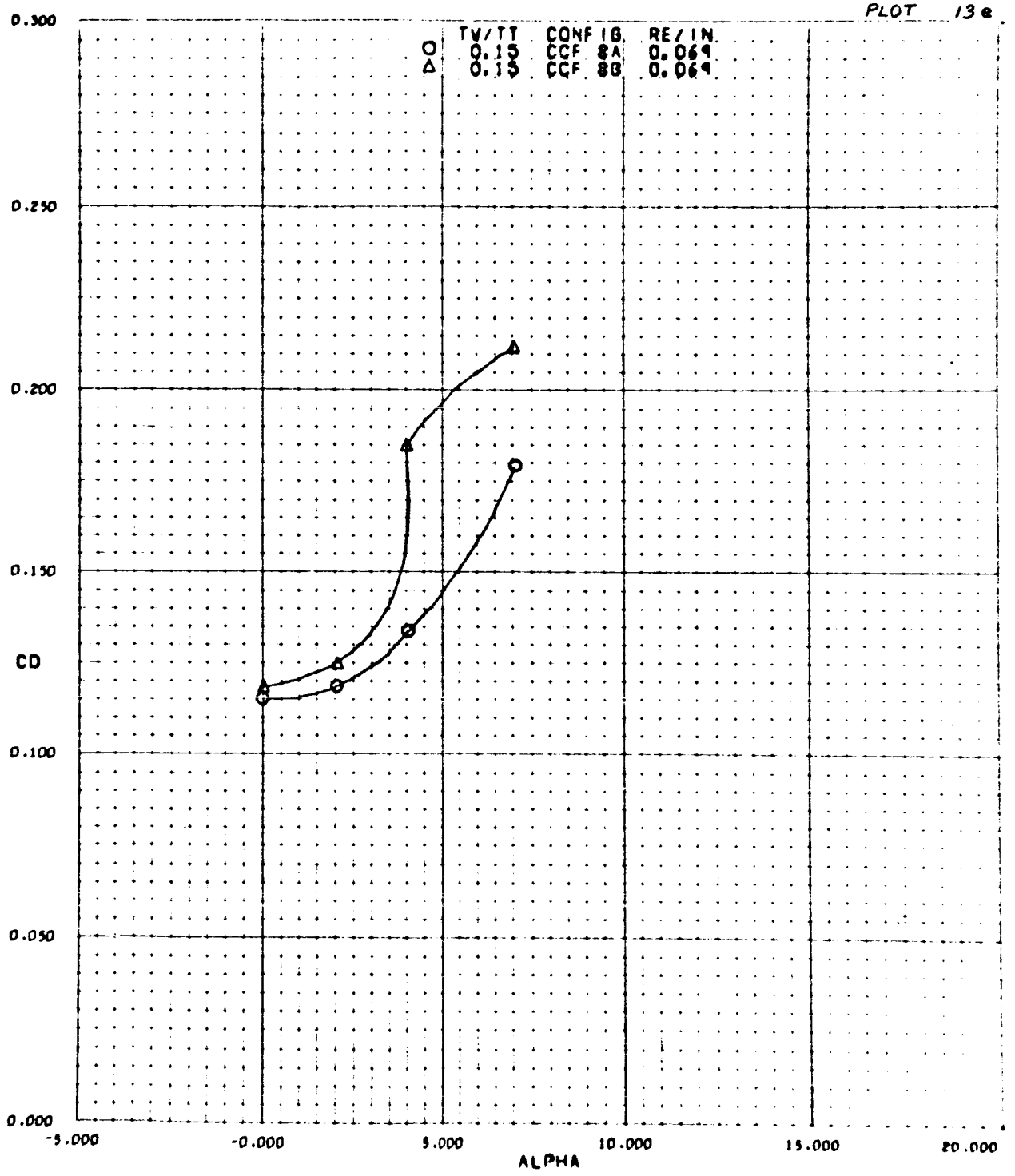
PLOT 13C


TW/TT CONFIG RE/IN
O 0.15 CCF 8A 0.069
Δ 0.15 CCF 8B 0.069
0.300
0.250
0.200
0.150
0.100
0.050
0.000
CC
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

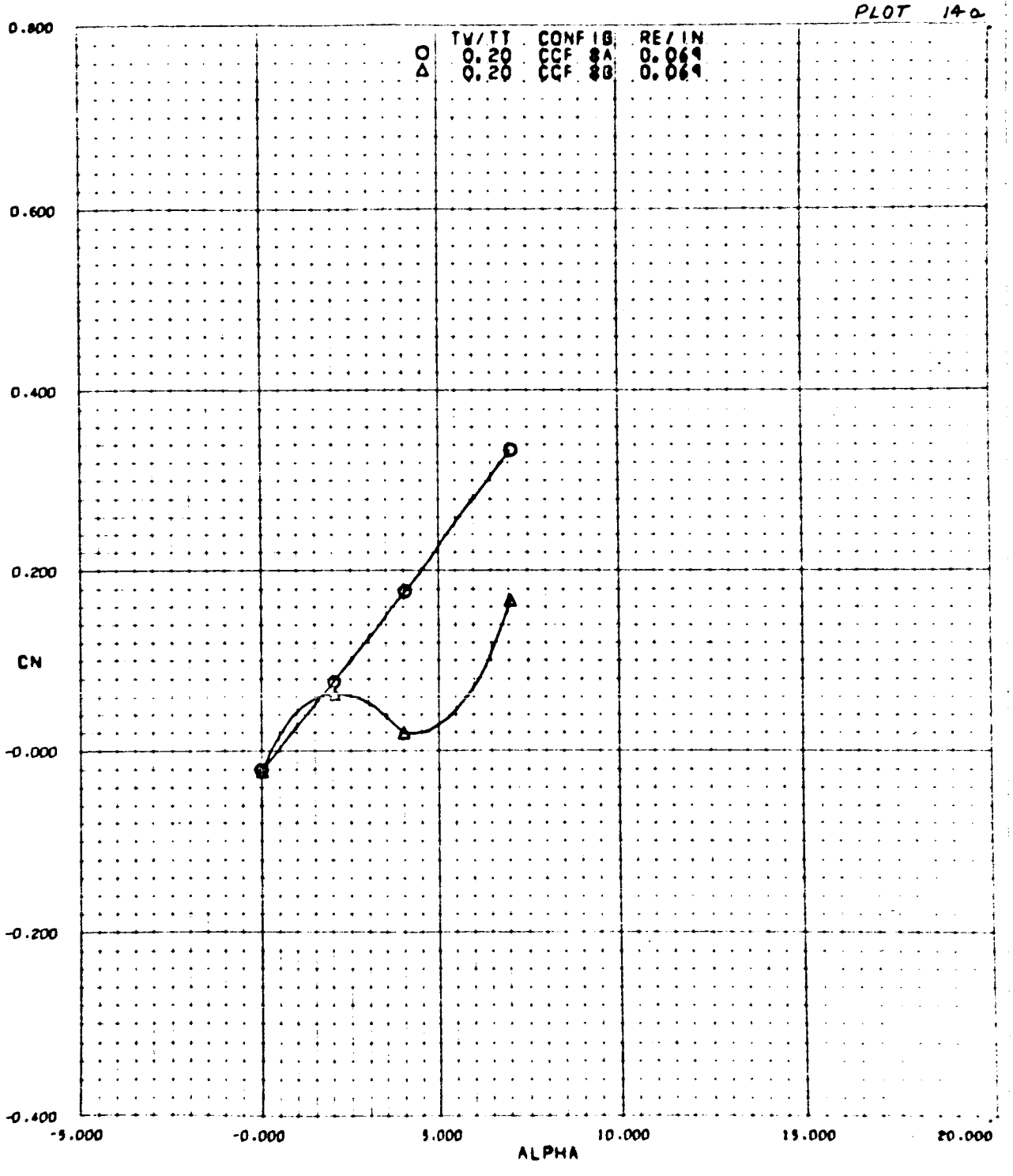
PLOT 13d


TW/TT CONFIG. RE/IN.
O 0.15 CCF 8A 0.069
Δ 0.15 CCF 8B 0.069
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

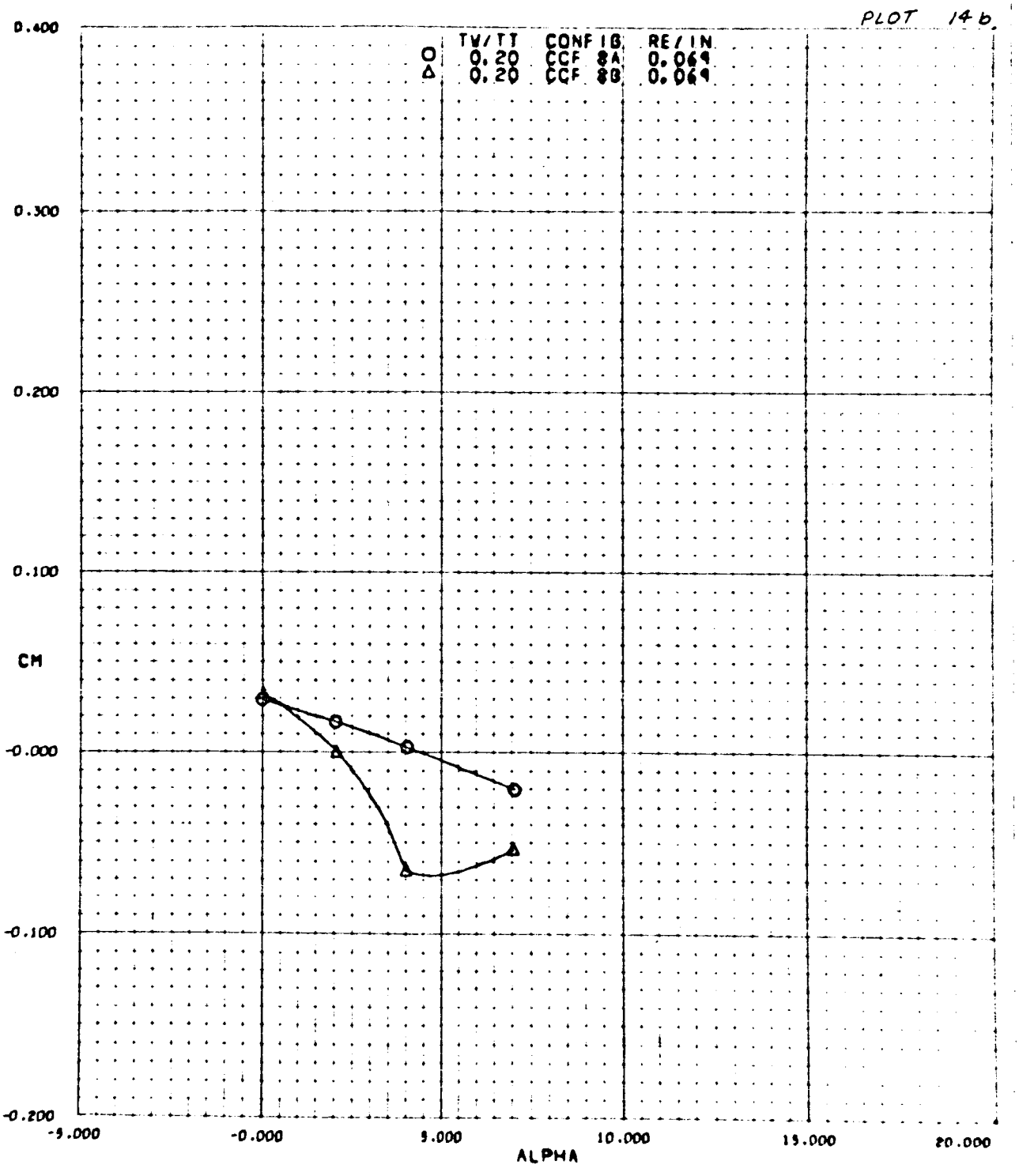
PLOT 13e

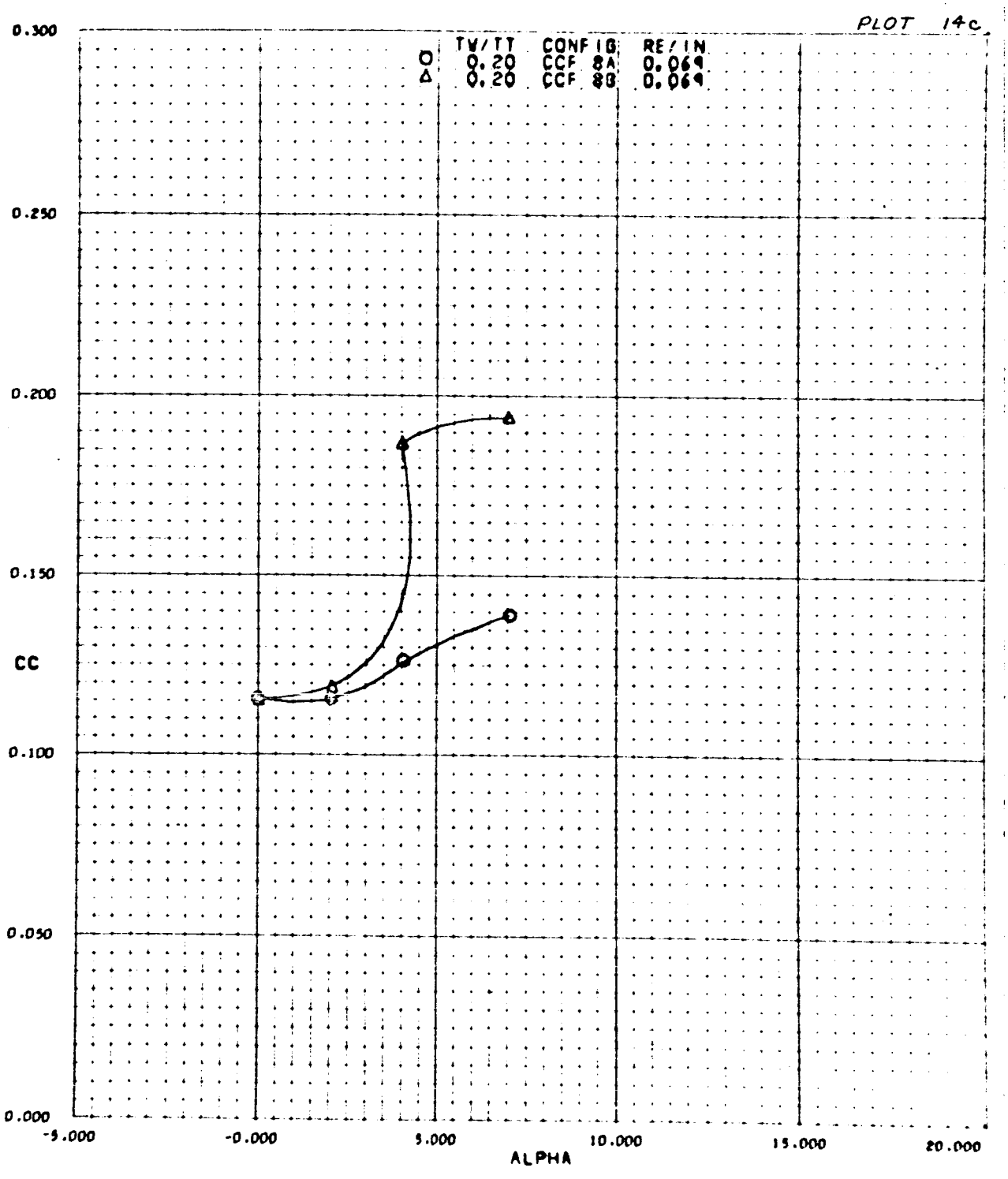

TW/TT CONFIG. RE/IN.
O 0.15 CCF 8A 0.069
Δ 0.15 CCF 8B 0.069
0.300
0.250
0.200
0.150
CD
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 14a

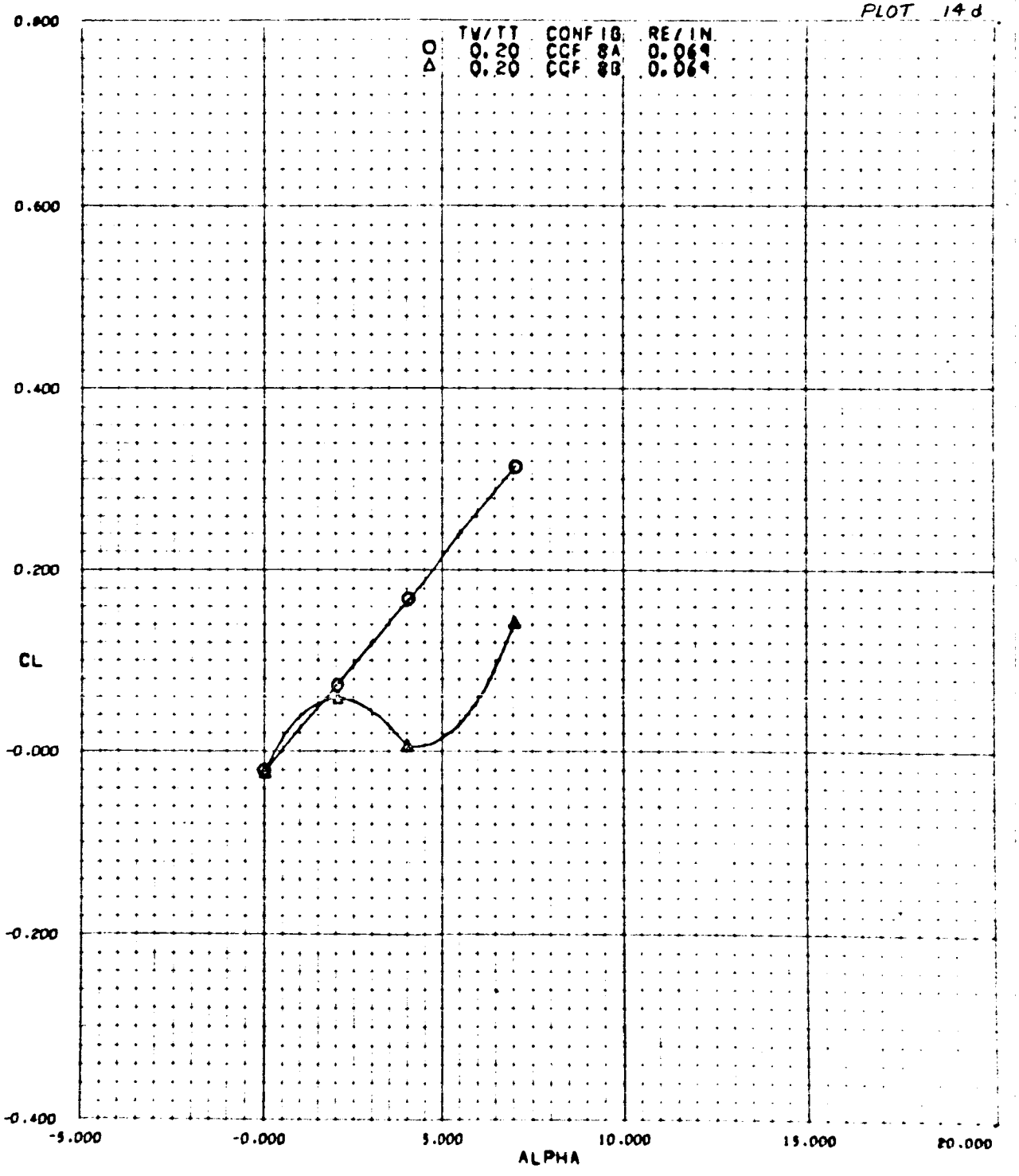

TW/TT CONFIG RE/IN
O 0.20 CCF 8A 0.069
Δ 0.20 CCF 8B 0.069
0.800
0.600
0.400
0.200
CN
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 14b


TW/TT CONFIG RE/IN
O 0.20 CCF 8A 0.069
Δ 0.20 CCF 8B 0.069
0.400
0.300
0.200
0.100
CM
-0.000
-0.100
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

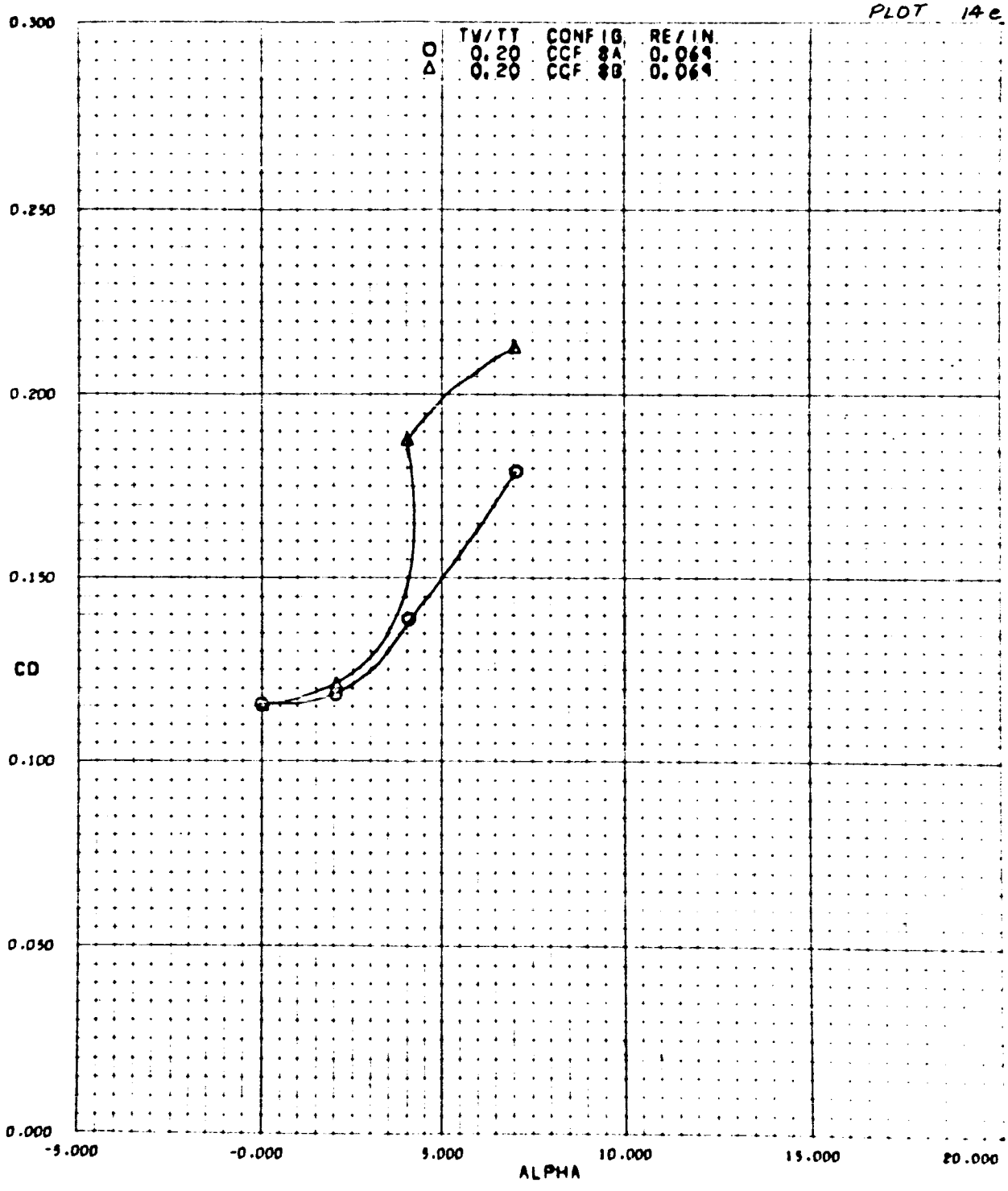

PLOT 14c
TW/TT CONFIG RE/IN
O 0.20 CCF 8A 0.069
Δ 0.20 CCF 8B 0.069
0.300
0.250
0.200
0.150
CC
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 14 d

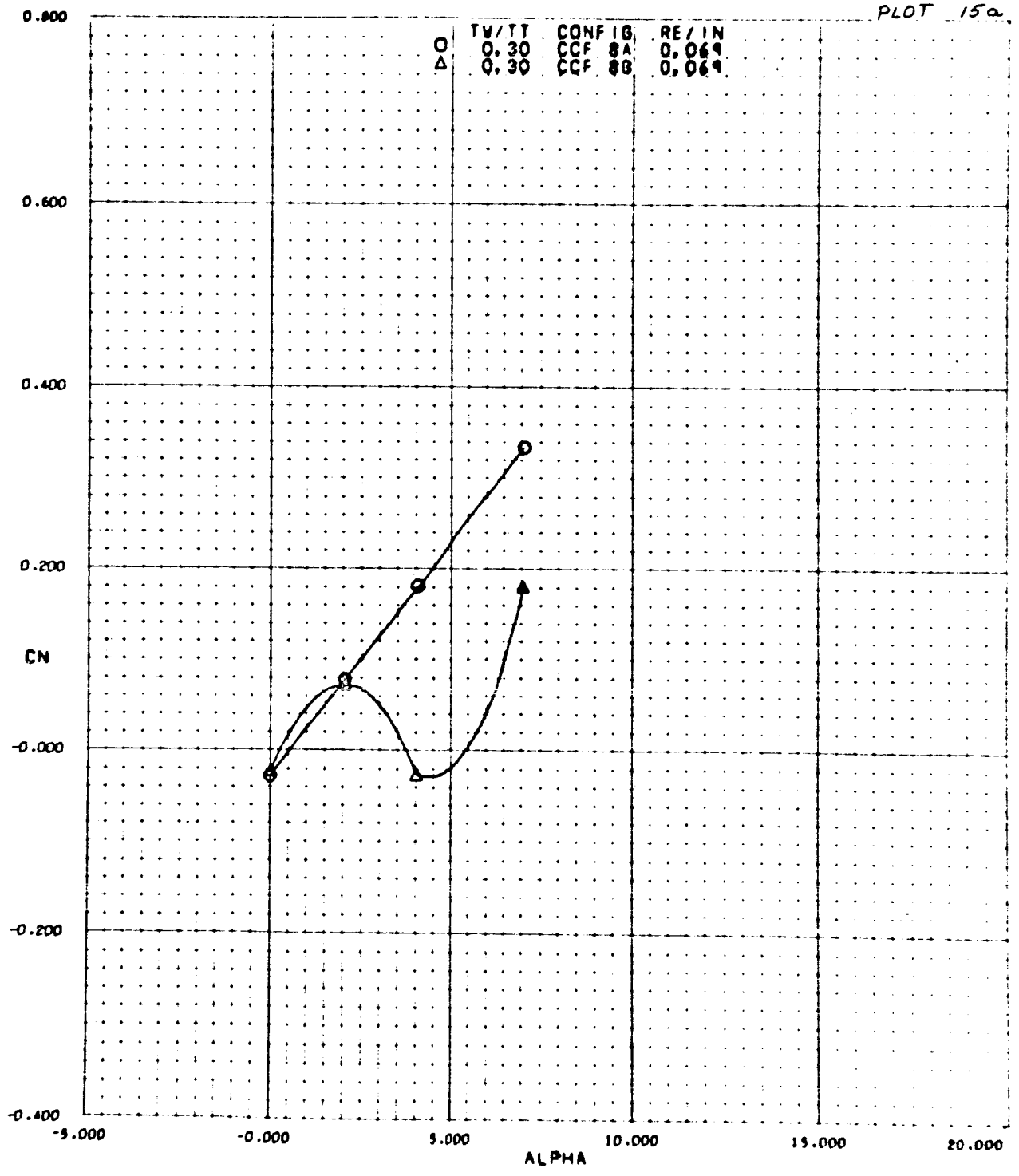

TV/TT CONFIG RE/IN
O 0.20 CCF 8A 0.069
Δ 0.20 CCF 8B 0.069
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

69

PLOT 14e

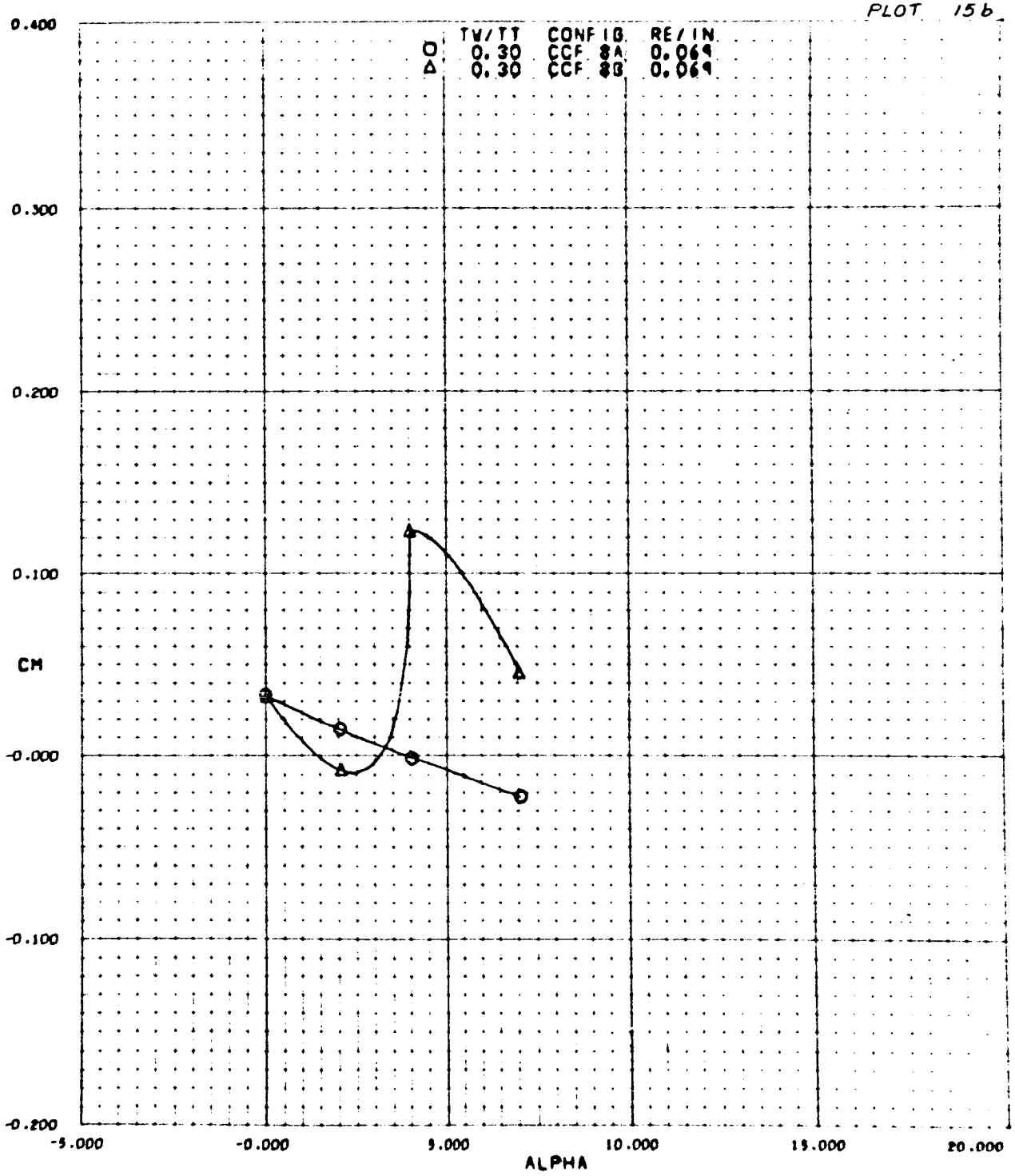

TW/TT CONFIG RE/IN.
O 0.20 CCF 8A 0.069
Δ 0.20 CCF 8B 0.069
0.300
0.250
0.200
0.150
CD
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 15a


TW/TT CONFIG RE/IN
O 0.30 CCF 8A 0.069
Δ 0.30 CCF 8B 0.069
0.800
0.600
0.400
0.200
CN
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

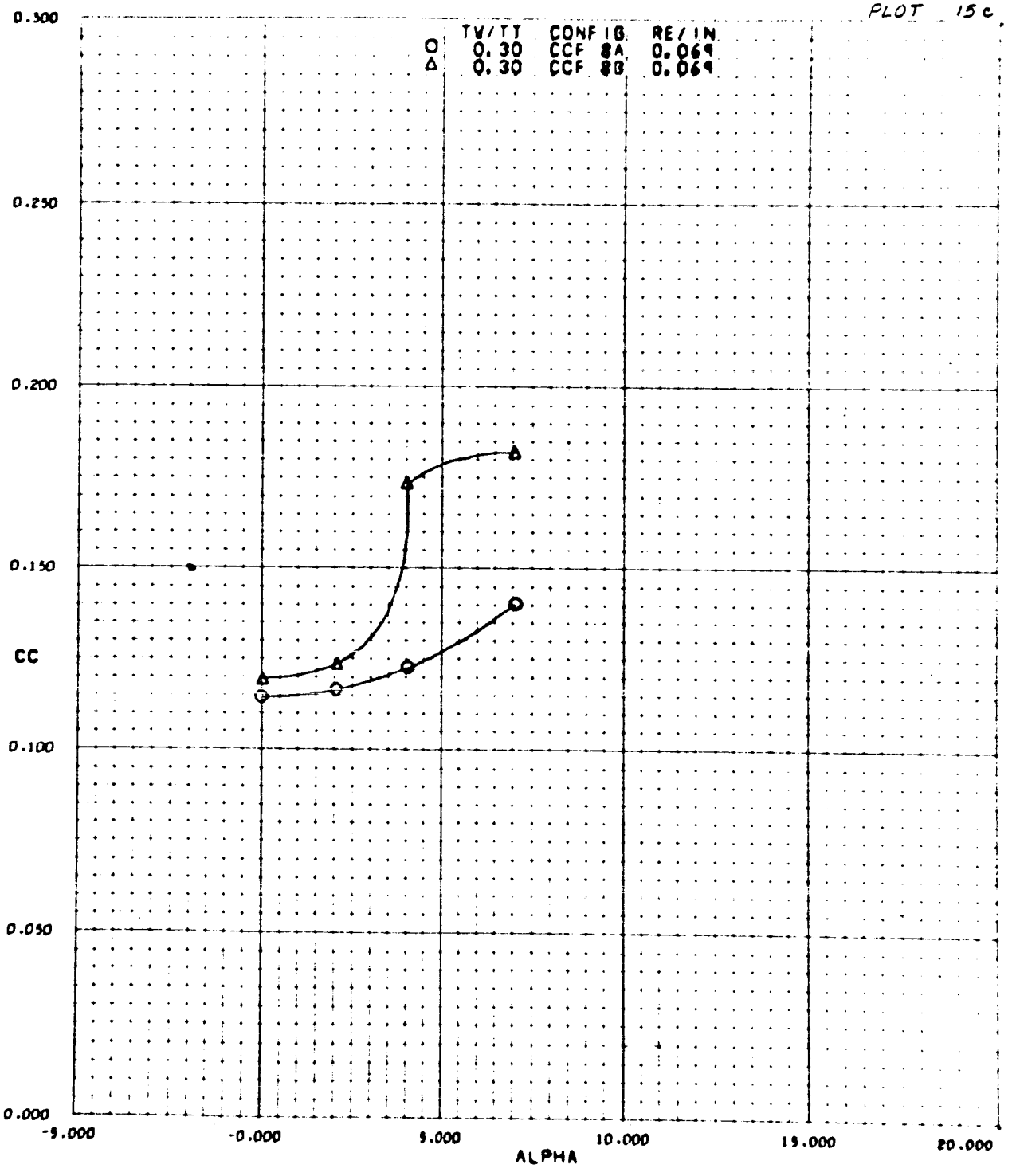
71

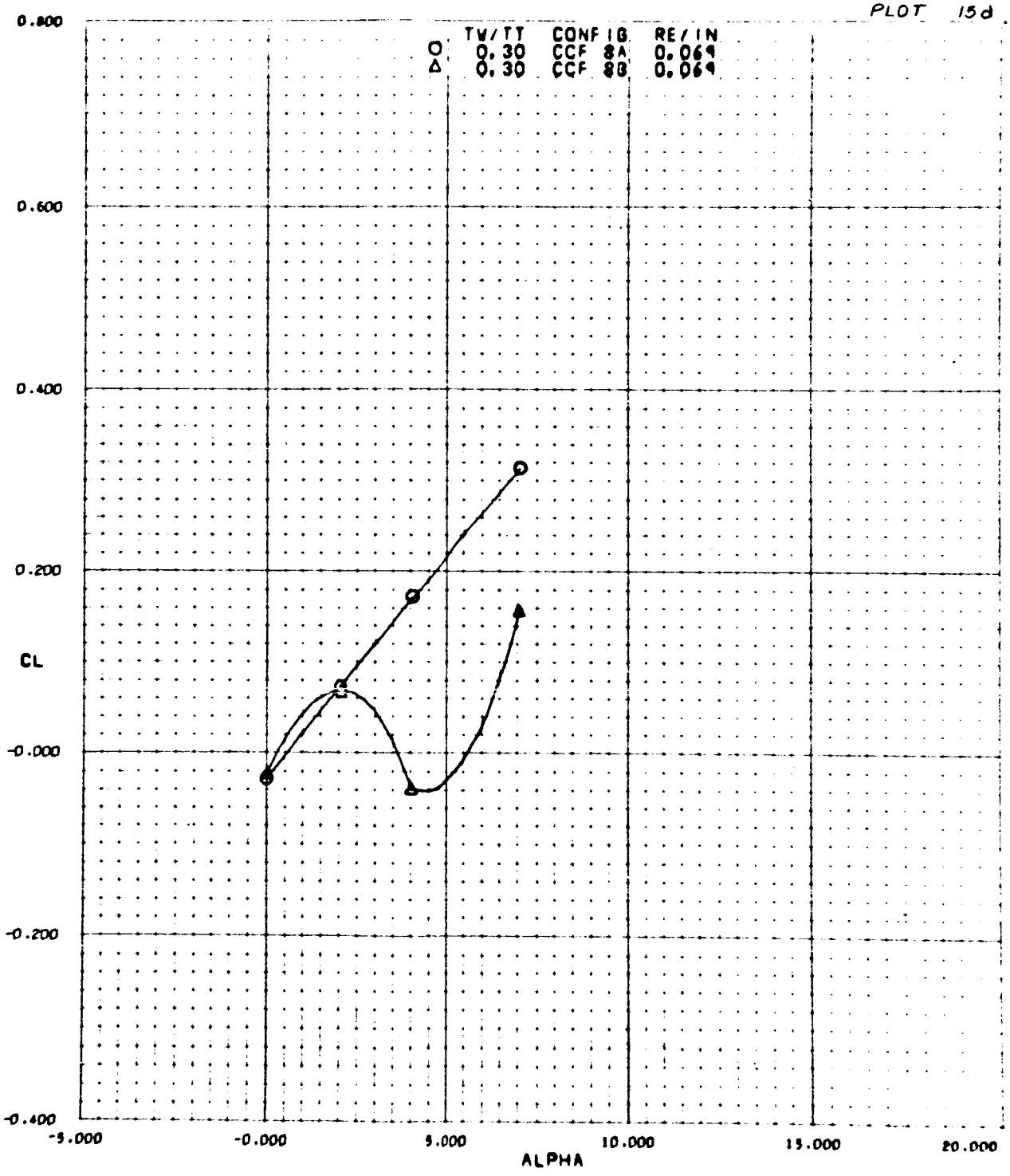
PLOT 15b


TW/TT CONFIG RE/IN
O 0.30 CCF 8A 0.069
Δ 0.30 CCF 8B 0.069
0.400
0.300
0.200
0.100
CM
-0.000
-0.100
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

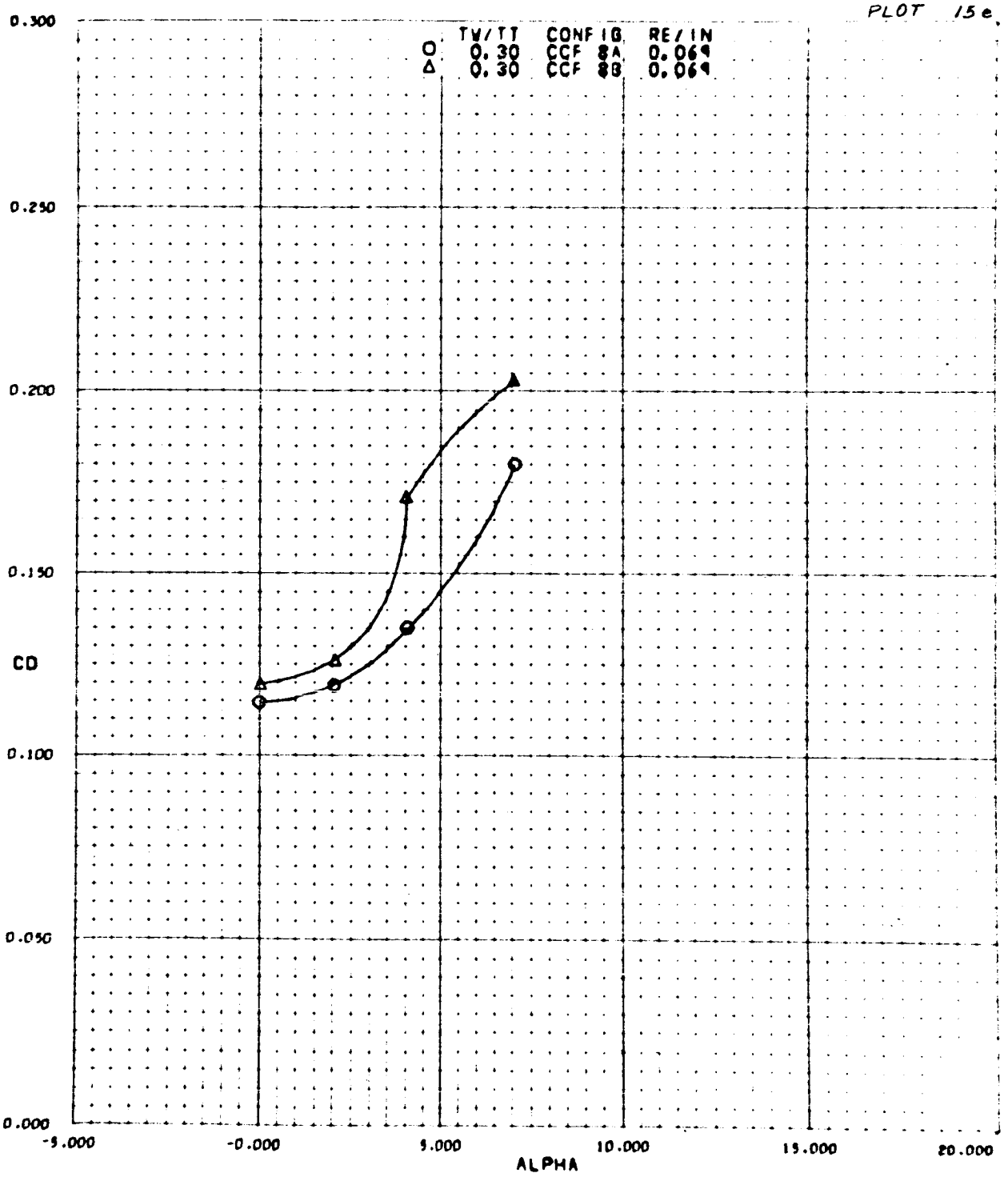
72

PLOT 15c


TV/TT CONFIG RE/IN
O 0.30 CCF 8A 0.069
Δ 0.30 CCF 8B 0.069
0.300
0.250
0.200
0.150
0.100
0.050
0.000
CC
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

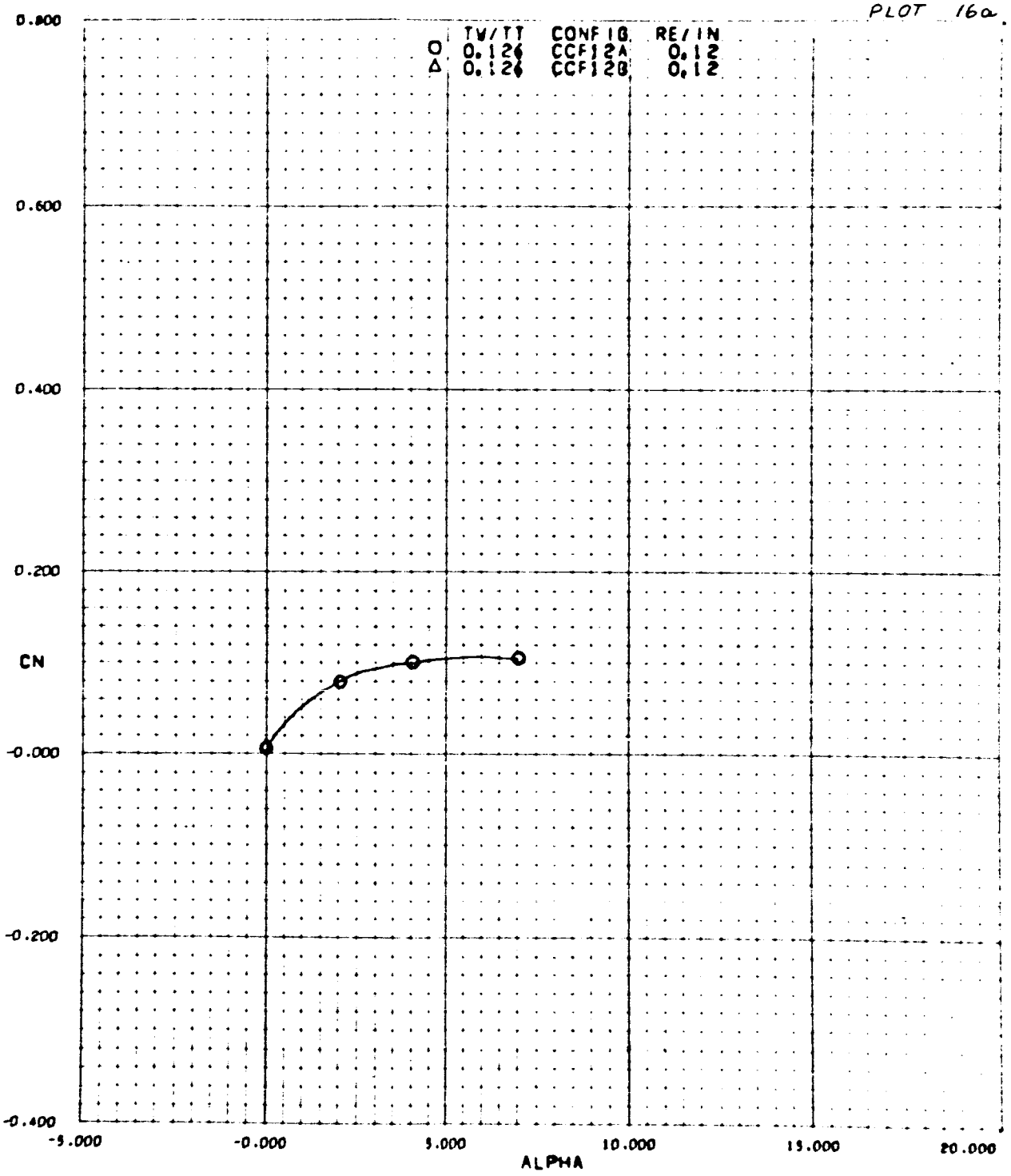

PLOT 15d
TW/TT CONFIG RE/IN
O 0.30 CCF 8A 0.069
Δ 0.30 CCF 8B 0.069
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 15e

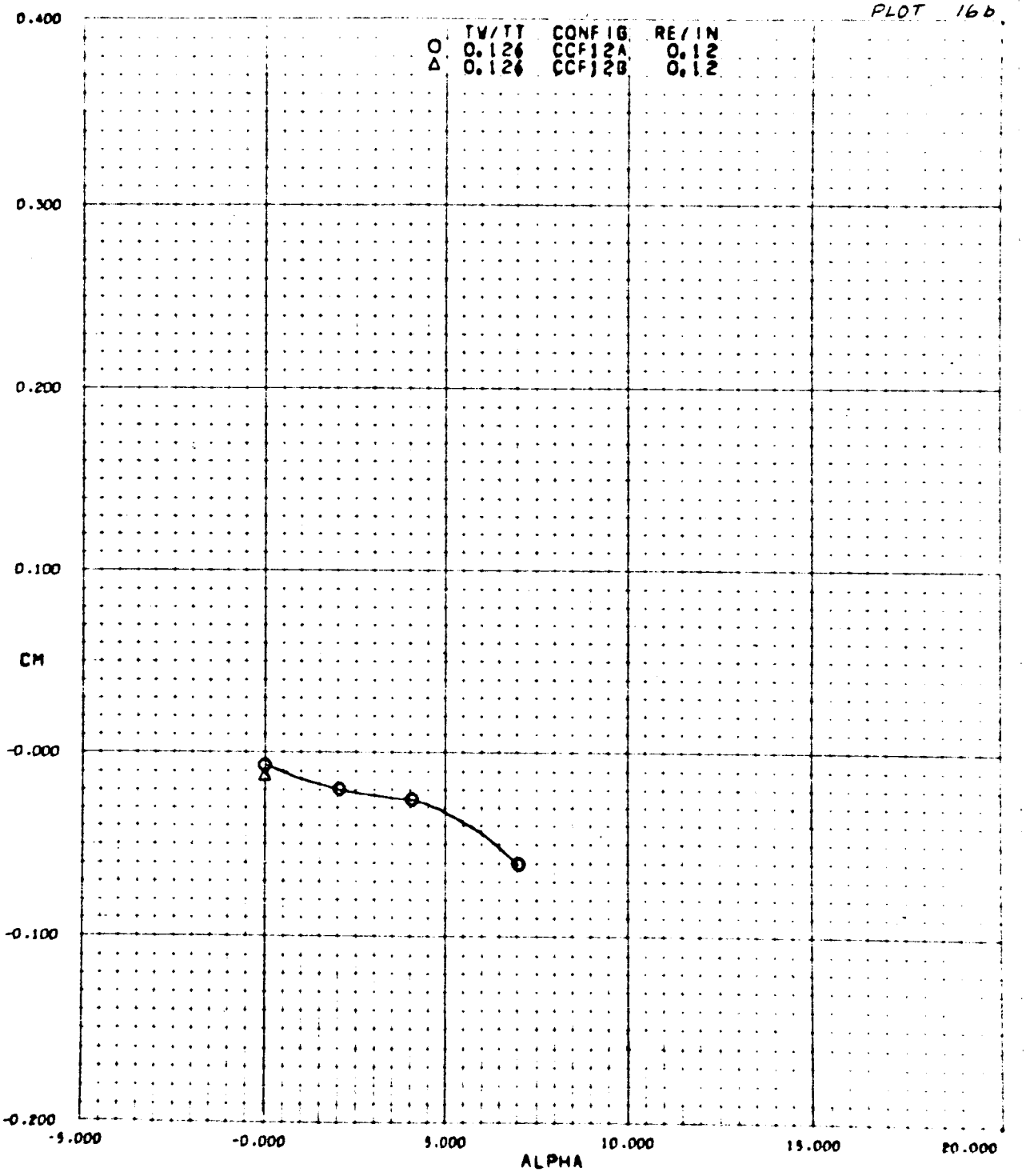

TW/TT CONFIG RE/IN
O 0.30 CCF 8A 0.069
Δ 0.30 CCF 8B 0.069
0.300
0.250
0.200
0.150
CD
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

75

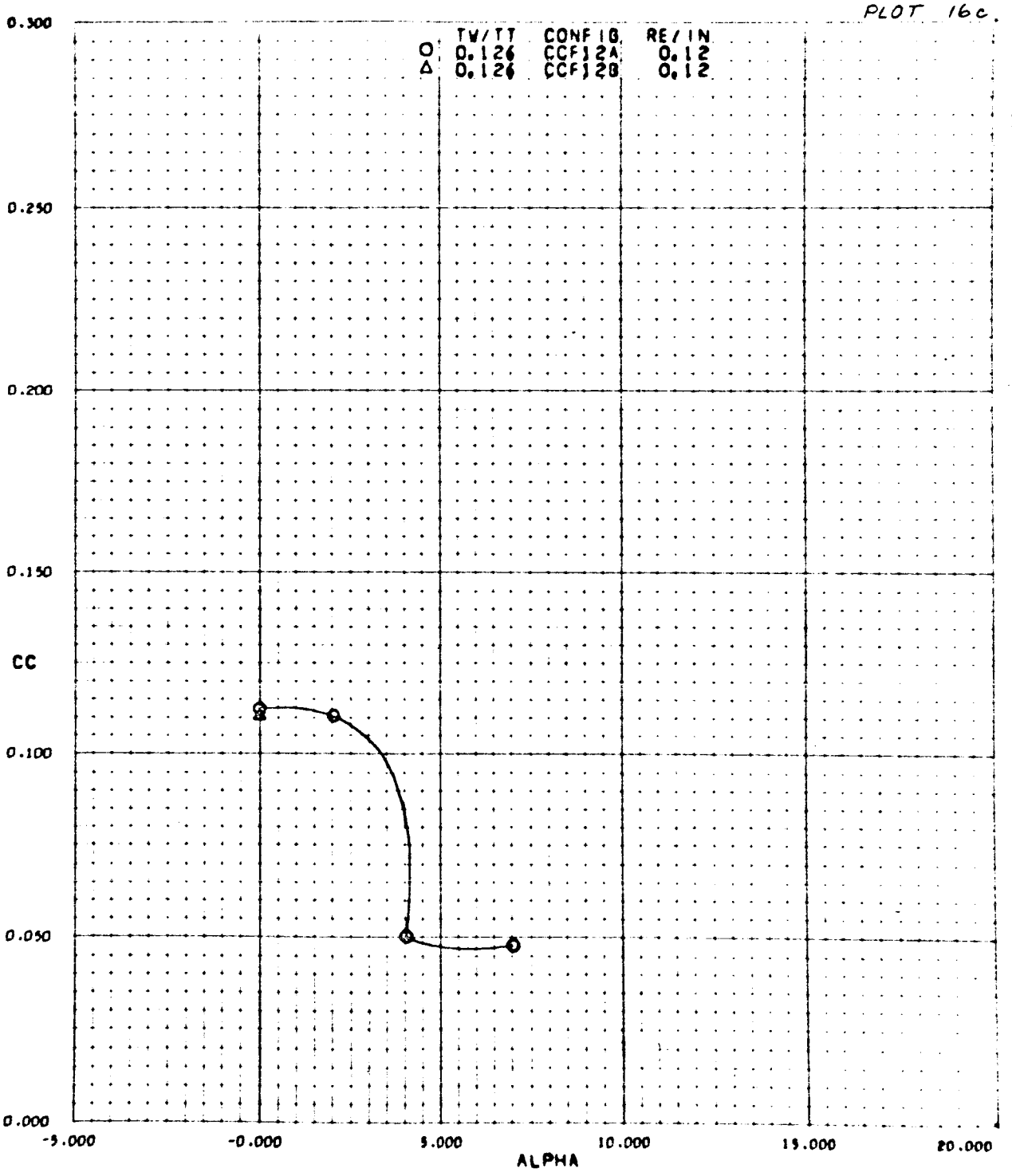
PLOT 16a


TW/TT CONFIG. RE/IN
O 0.12¢ CCF12A 0.12
Δ 0.12¢ CCF12B 0.12
0.800
0.600
0.400
0.200
CN
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 16b

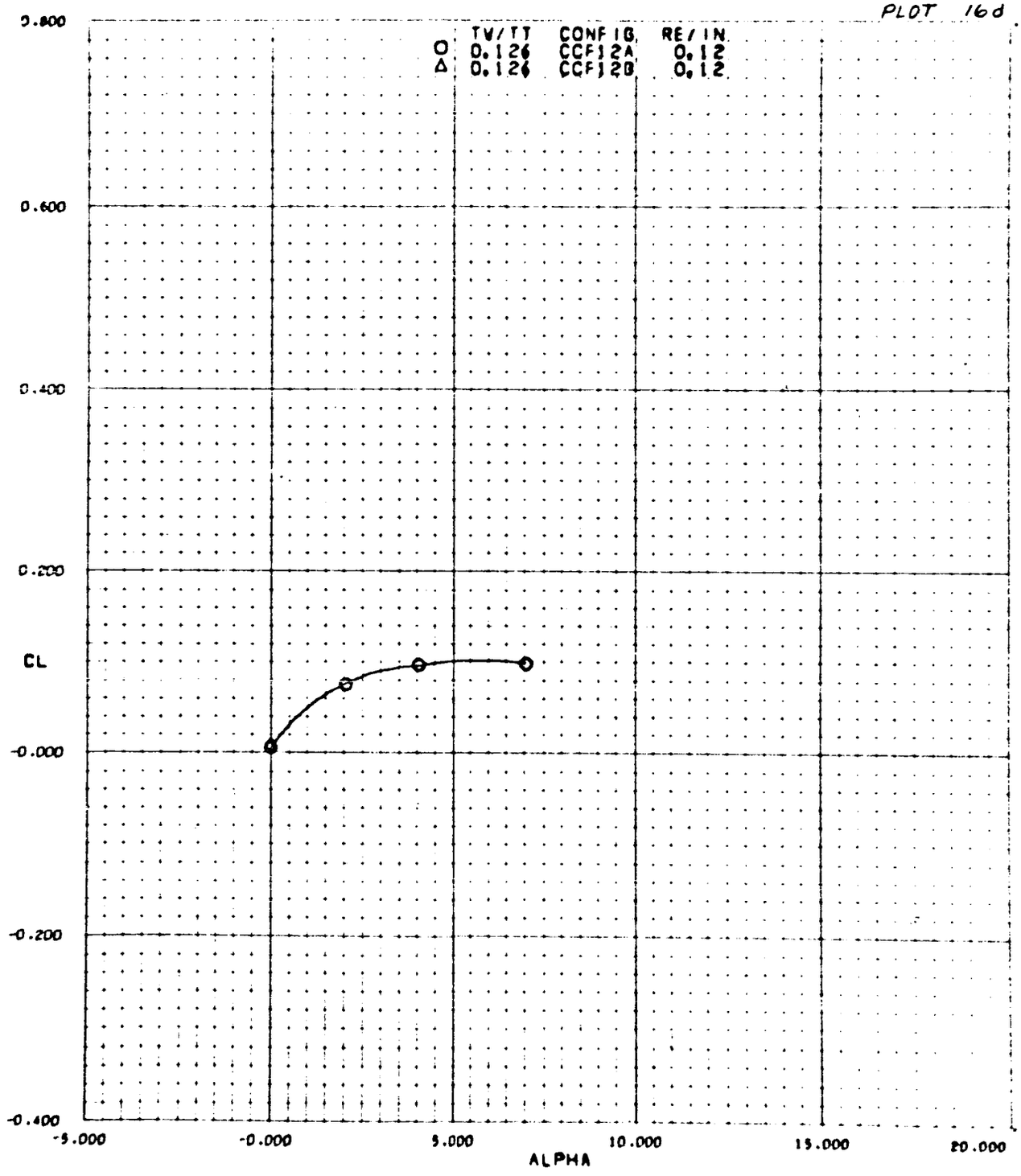

TW/TT CONFIG RE/IN
O 0.126 CCF12A 0.12
Δ 0.126 CCF12B 0.12
0.400
0.300
0.200
0.100
CM
-0.000
-0.100
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 16c.


TW/TT CONFIG. RE/IN
O 0.126 CCF12A 0.12
Δ 0.126 CCF12B 0.12
0.300
0.250
0.200
0.150
CC
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

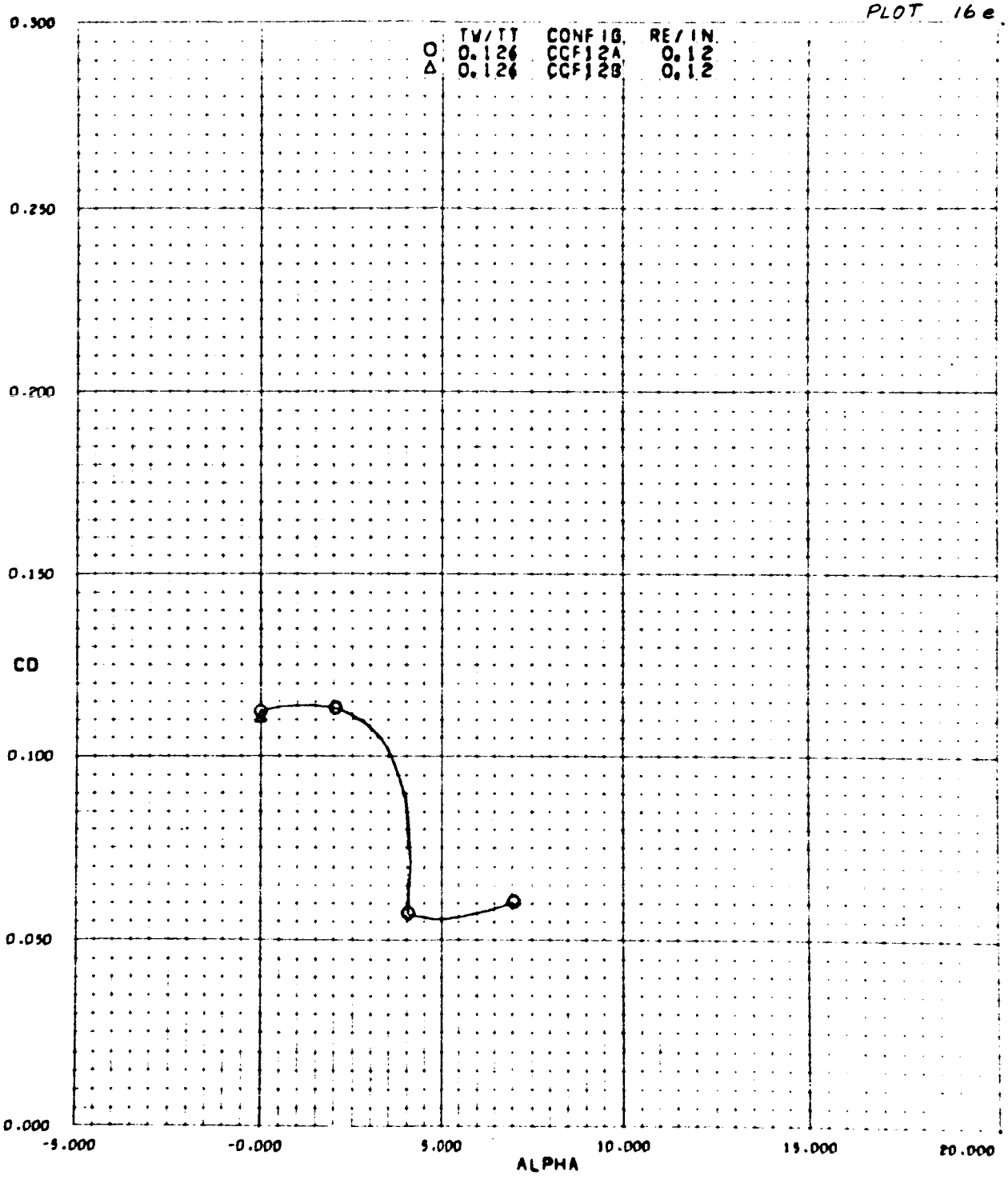
78

PLOT 16d


TV/TT CONFIG. RE/IN.
O 0.12δ CCF12A 0.12
Δ 0.12δ CCF12B 0.12
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

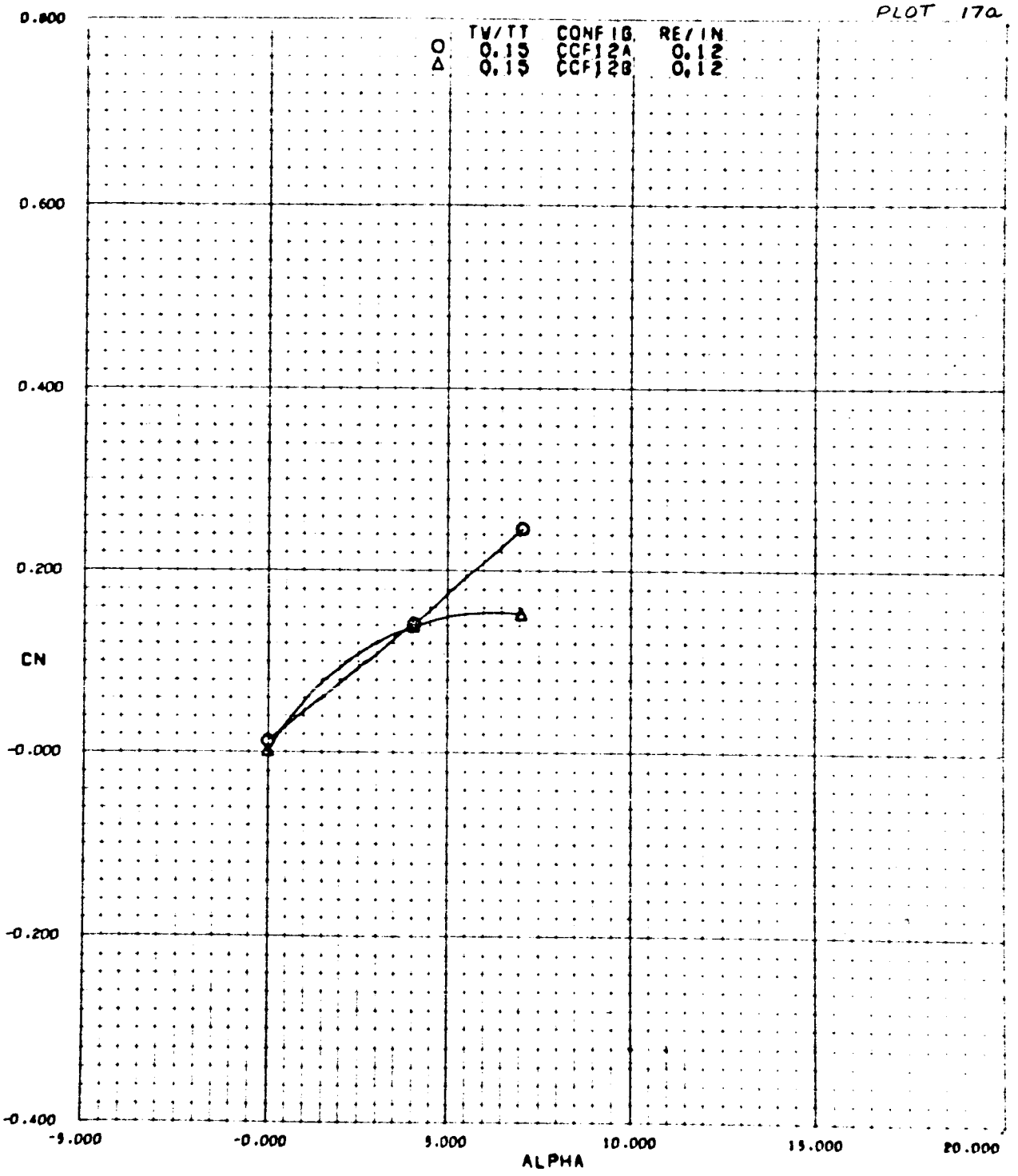
79

PLOT 16e

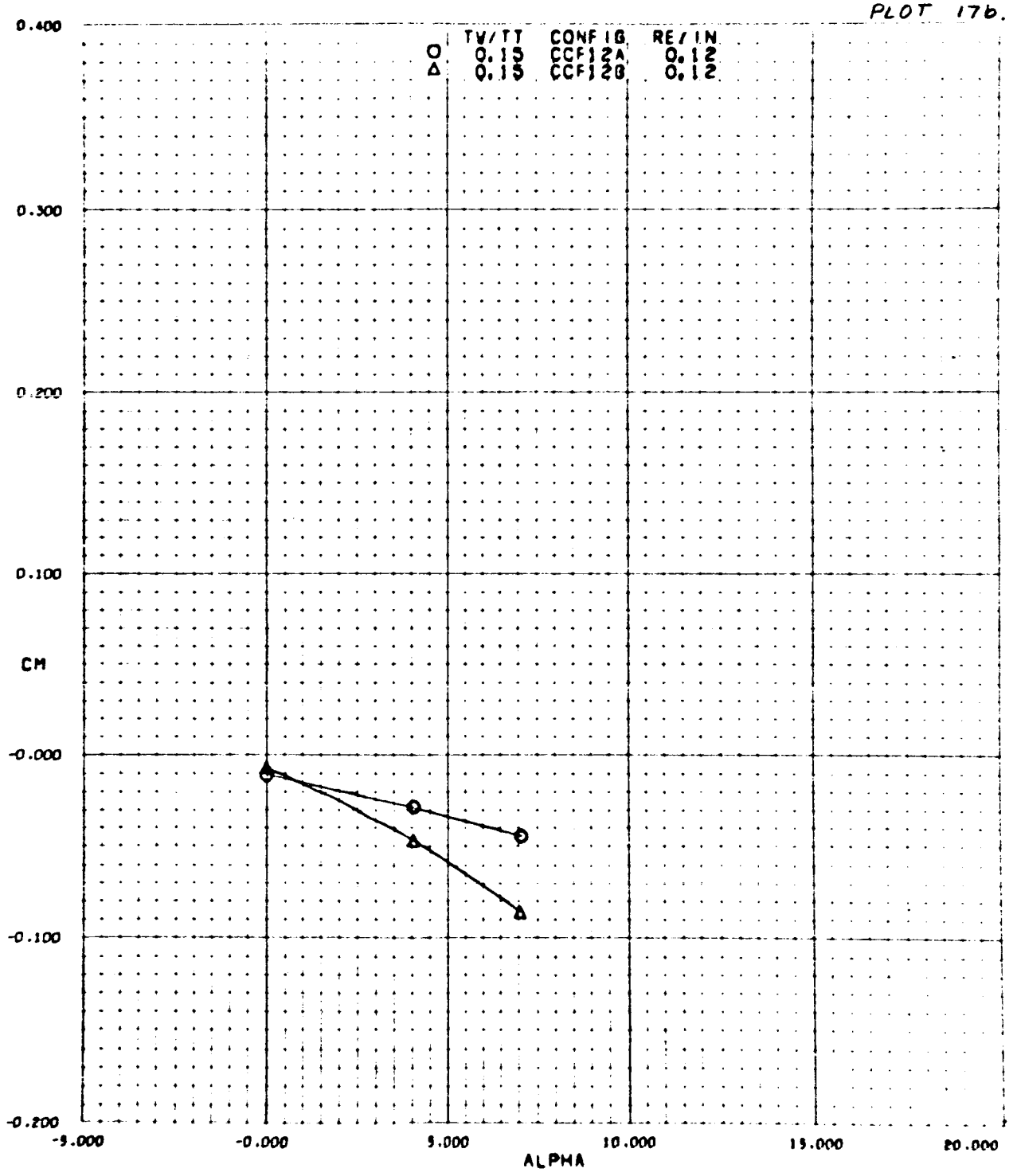

TW/TT CONFIG. RE/IN.
O 0.126 CCF12A 0.12
Δ 0.126 CCF12B 0.12
0.300
0.250
0.200
0.150
CD
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

80

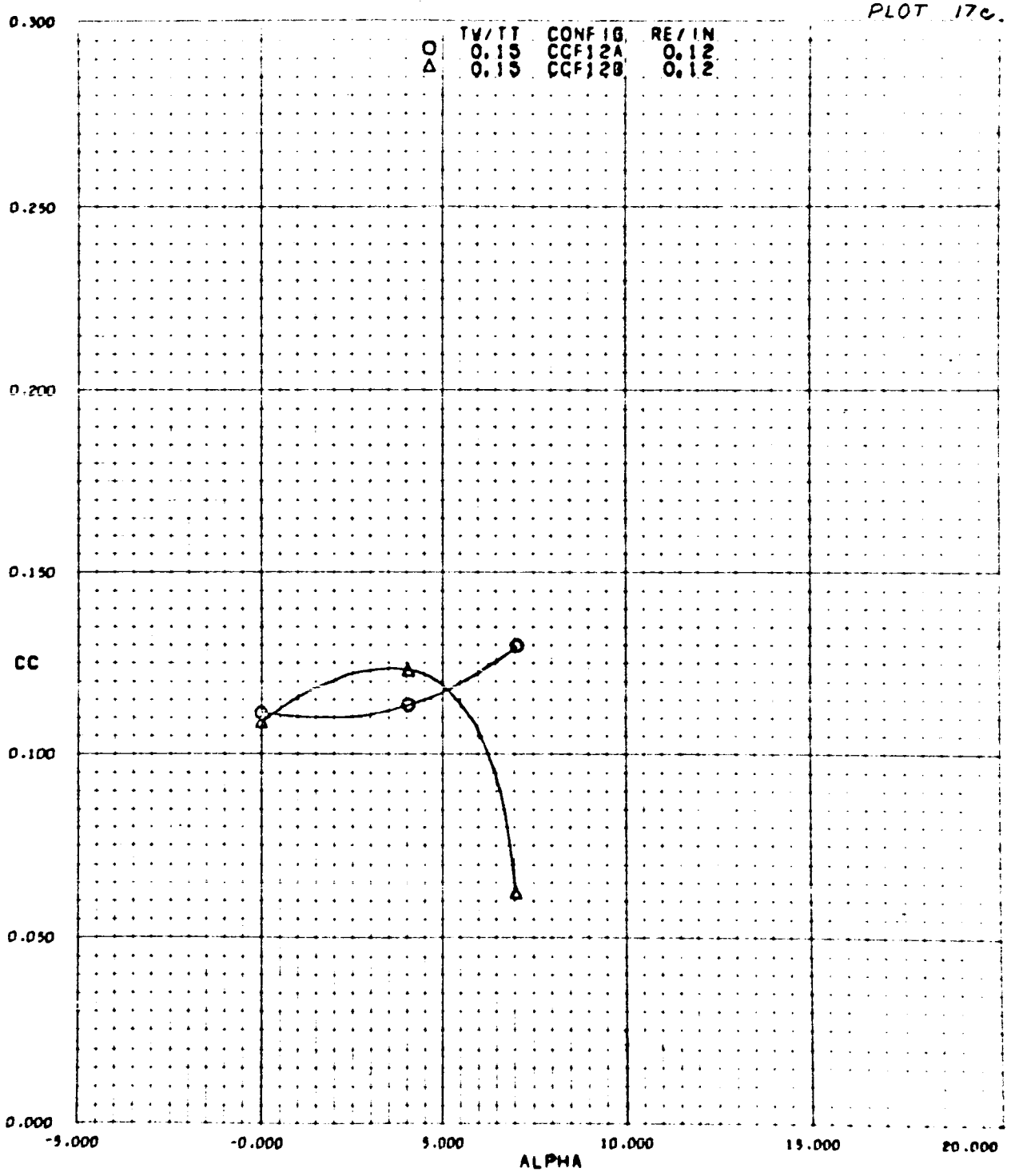
PLOT 17a


TW/TT CONFIG. RE/IN
O 0.15 CCF12A 0.12
Δ 0.15 CCF12B 0.12
0.800
0.600
0.400
0.200
CN
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

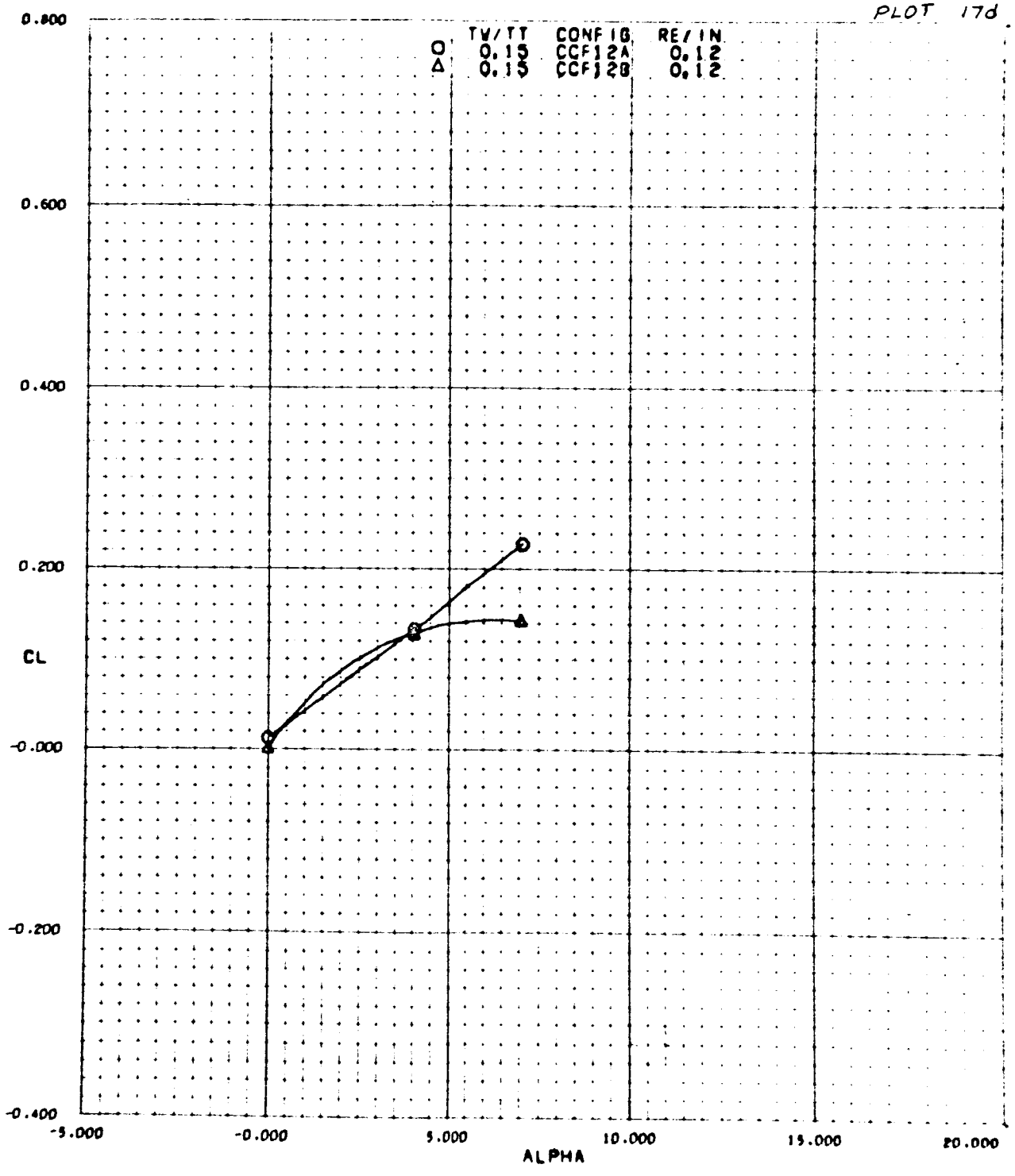
PLOT 17b.


TW/TT CONFIG RE/IN
O 0.15 CCF12A 0.12
Δ 0.15 CCF12B 0.12
0.400
0.300
0.200
0.100
CM
-0.000
-0.100
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

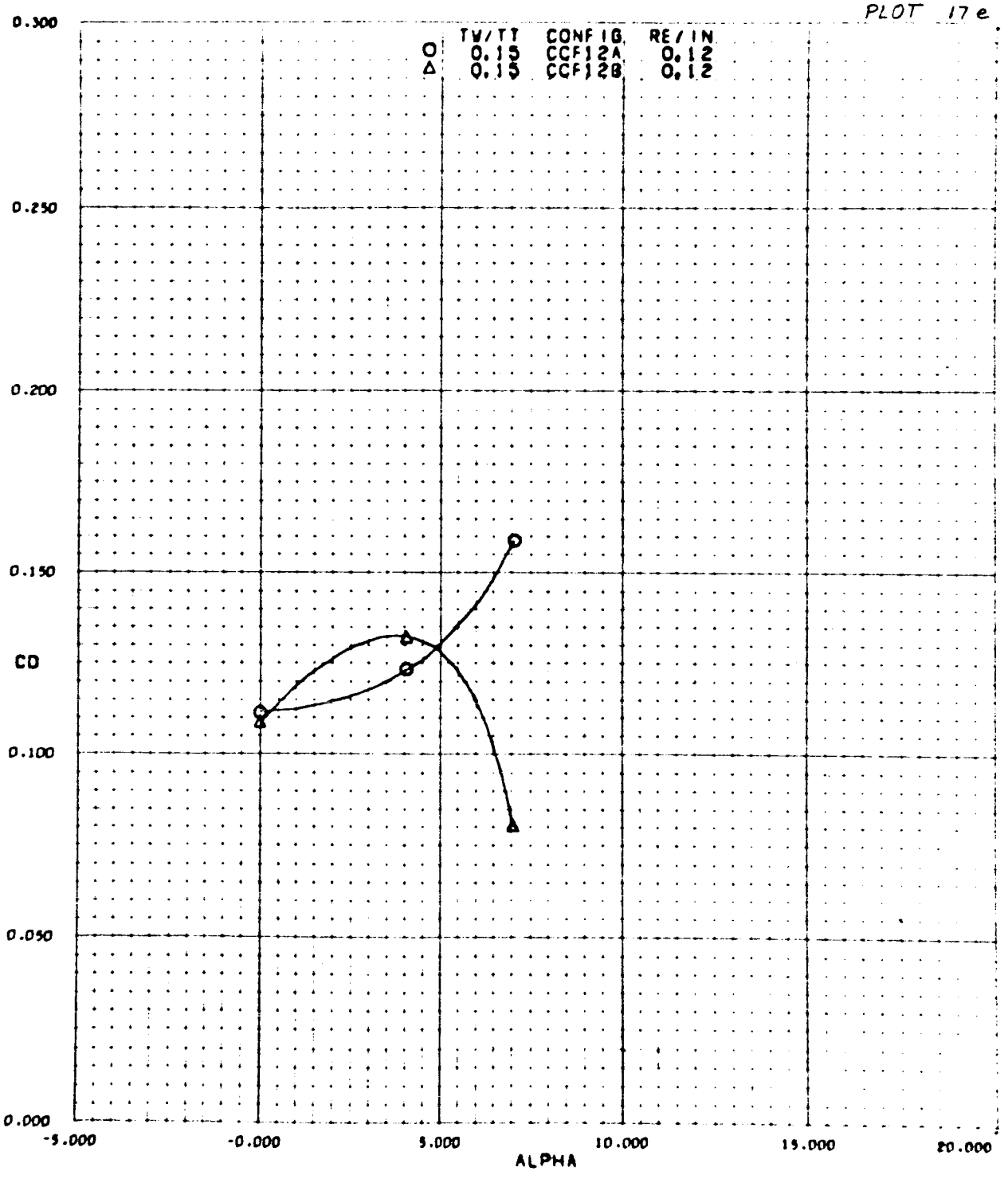
PLOT 17c.


TV/TT CONFIG. RE/IN
O 0.15 CCF12A 0.12
Δ 0.15 CCF12B 0.12
0.300
0.250
0.200
0.150
CC
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

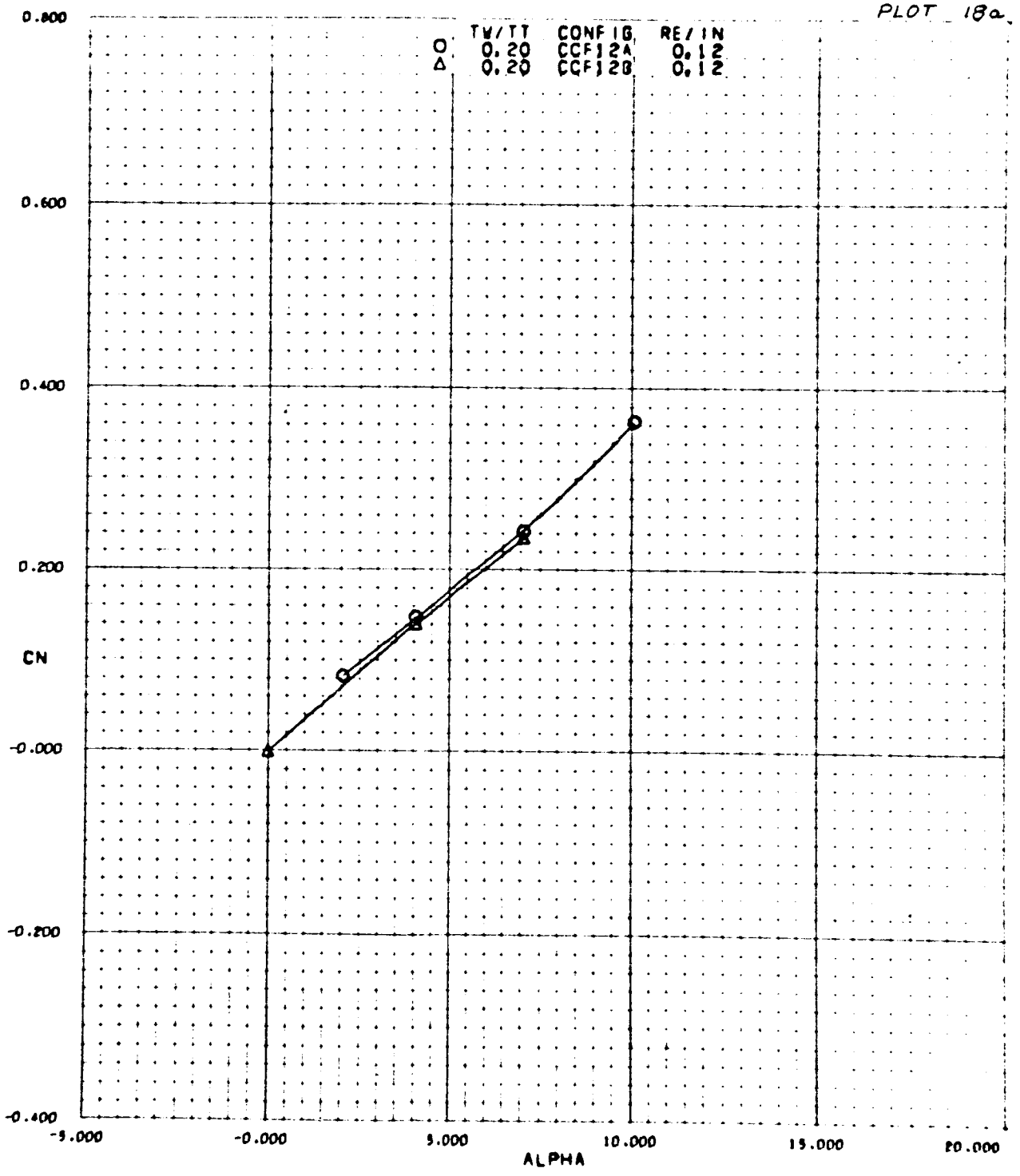
PLOT 17d


TW/TT CONFIG RE/IN
O 0.15 CCF12A 0.12
Δ 0.15 CCF12B 0.12
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

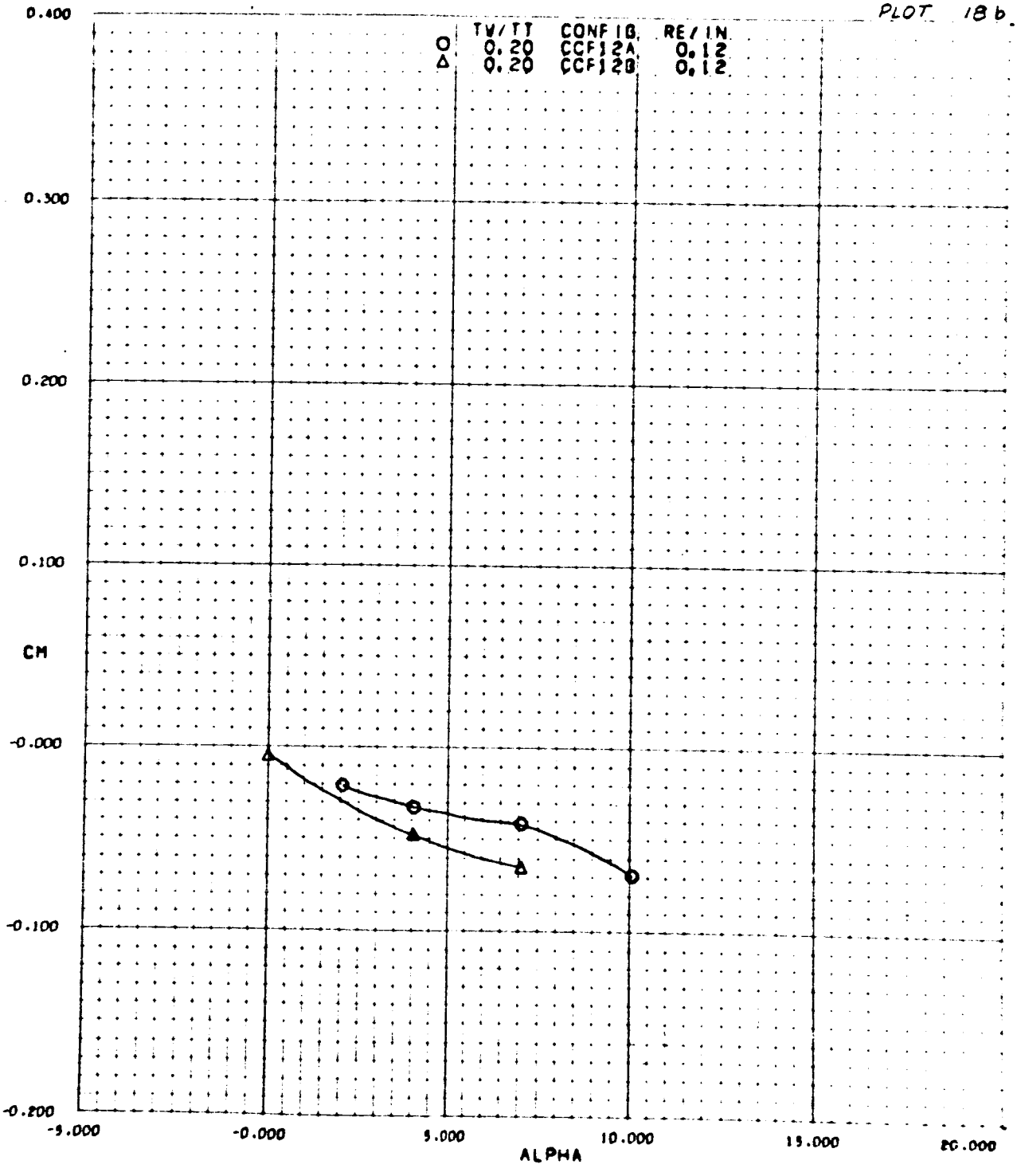
PLOT 17e


TW/TT CONFIG. RE/IN
O 0.15 CCF12A 0.12
Δ 0.15 CCF12B 0.12
0.300
0.250
0.200
0.150
0.100
0.050
0.000
CD
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

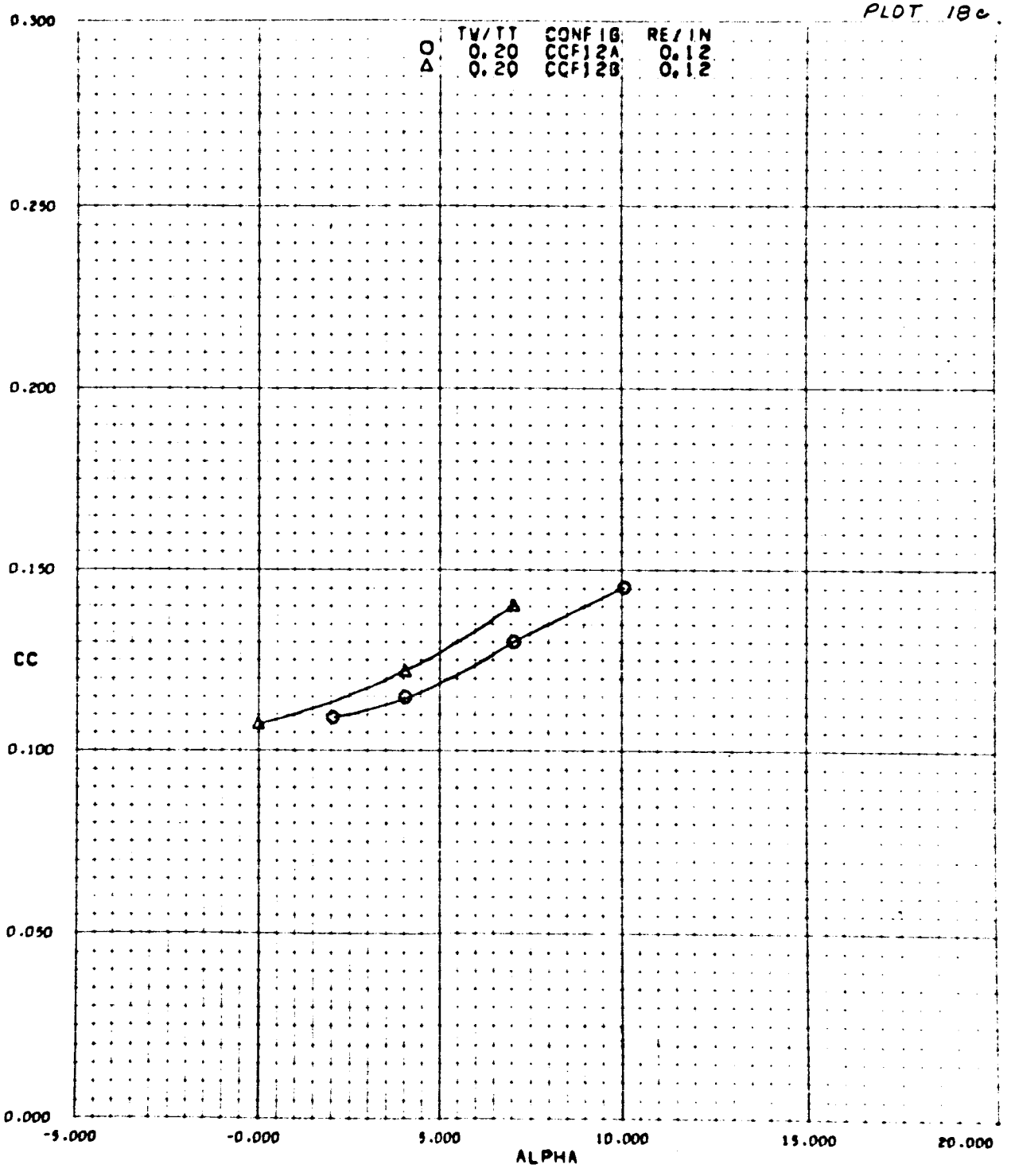
PLOT 18a


TW/TT CONFIG RE/IN
O 0.20 CCF12A 0.12
Δ 0.20 CCF12B 0.12
0.800
0.600
0.400
0.200
CN
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

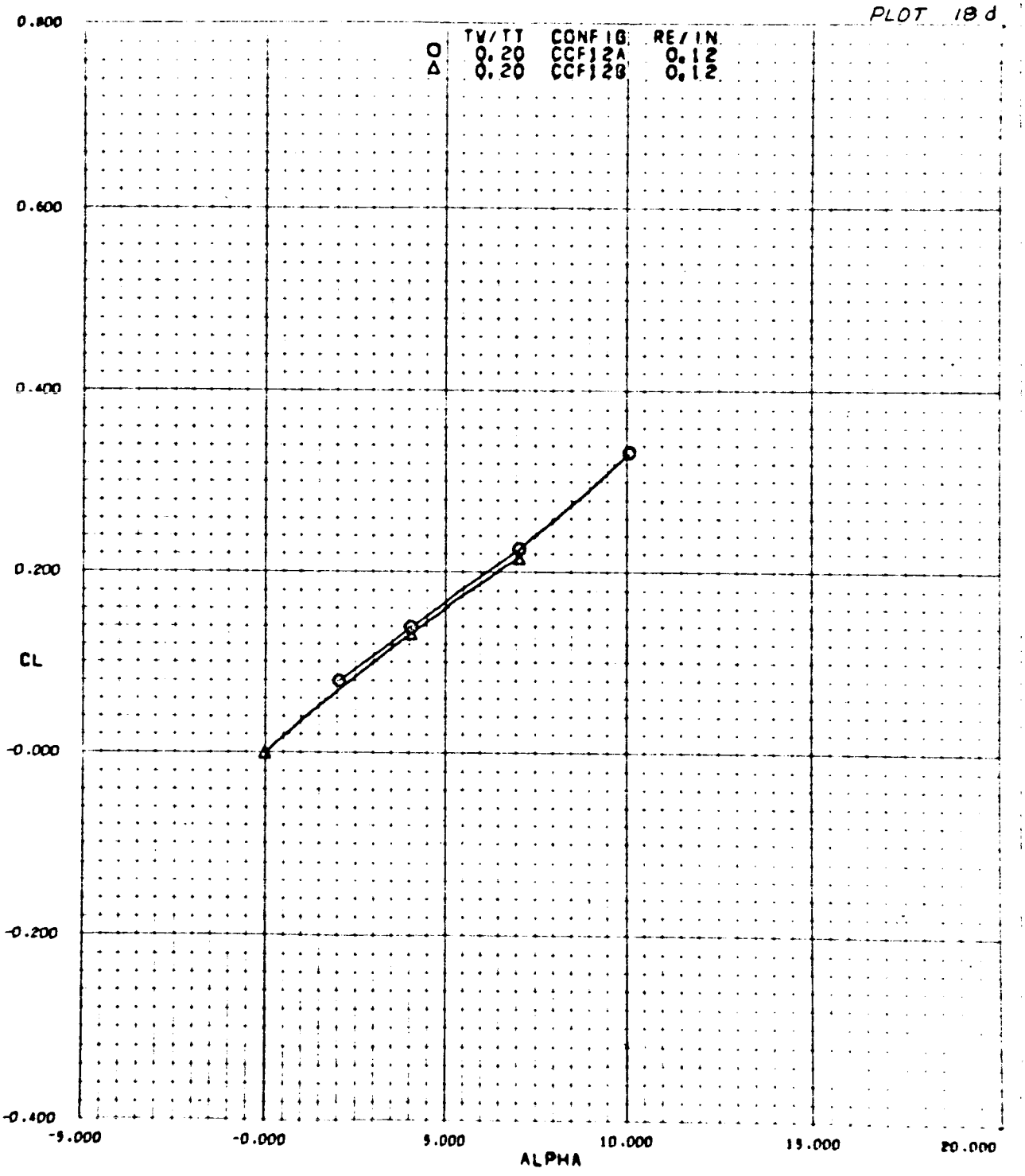
PLOT 18b


TV/TT CONFIG. RE/IN.
O 0.20 CCF12A 0.12
Δ 0.20 CCF12B 0.12
0.400
0.300
0.200
0.100
CM
-0.000
-0.100
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 18c

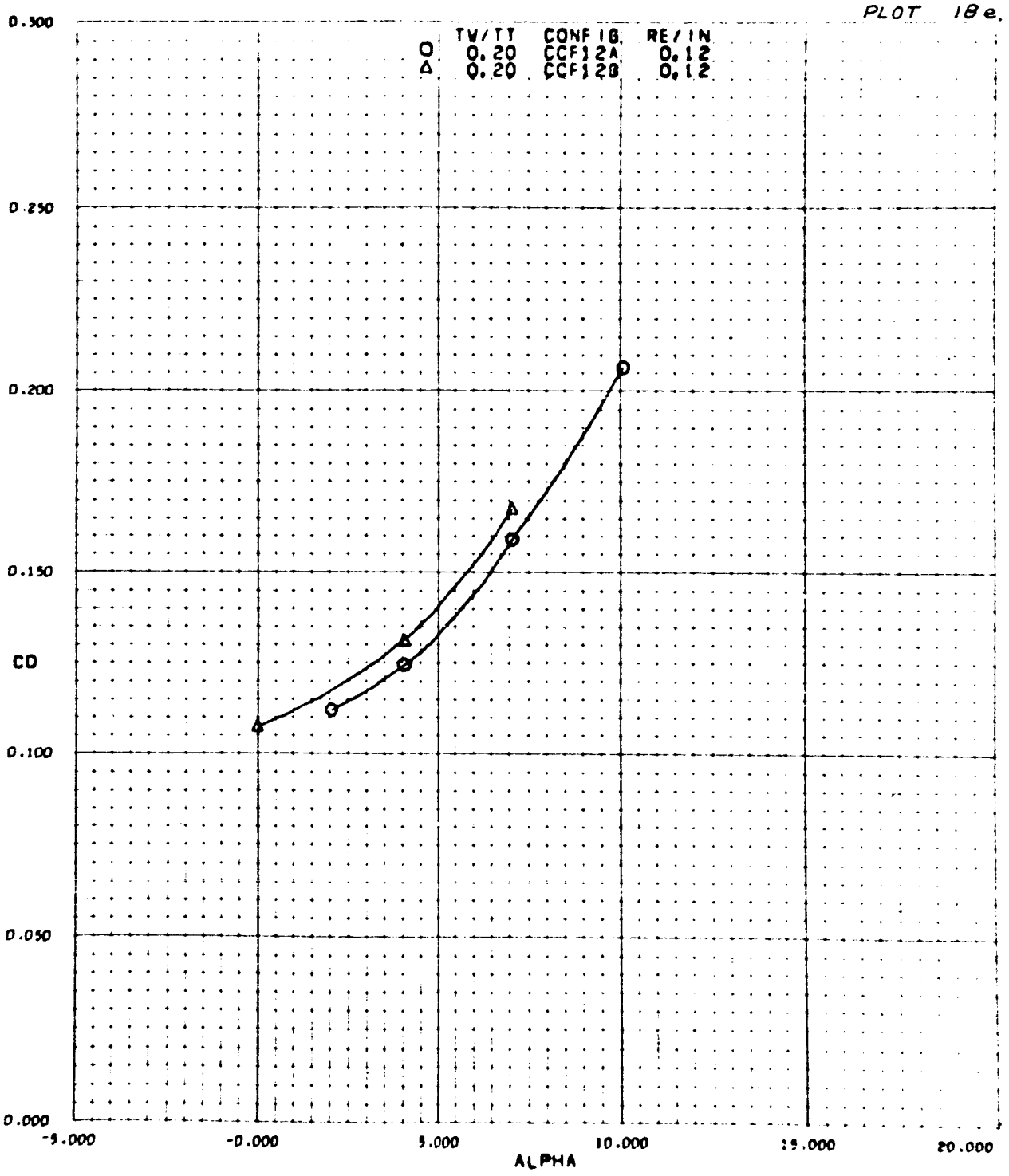

TW/TT CONFIG RE/IN
O 0.20 CCF12A 0.12
Δ 0.20 CCF12B 0.12
0.300
0.250
0.200
0.150
0.100
0.050
0.000
CC
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 18 d


TV/TT CONFIG RE/IN
O 0.20 CCF12A 0.12
Δ 0.20 CCF12B 0.12
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

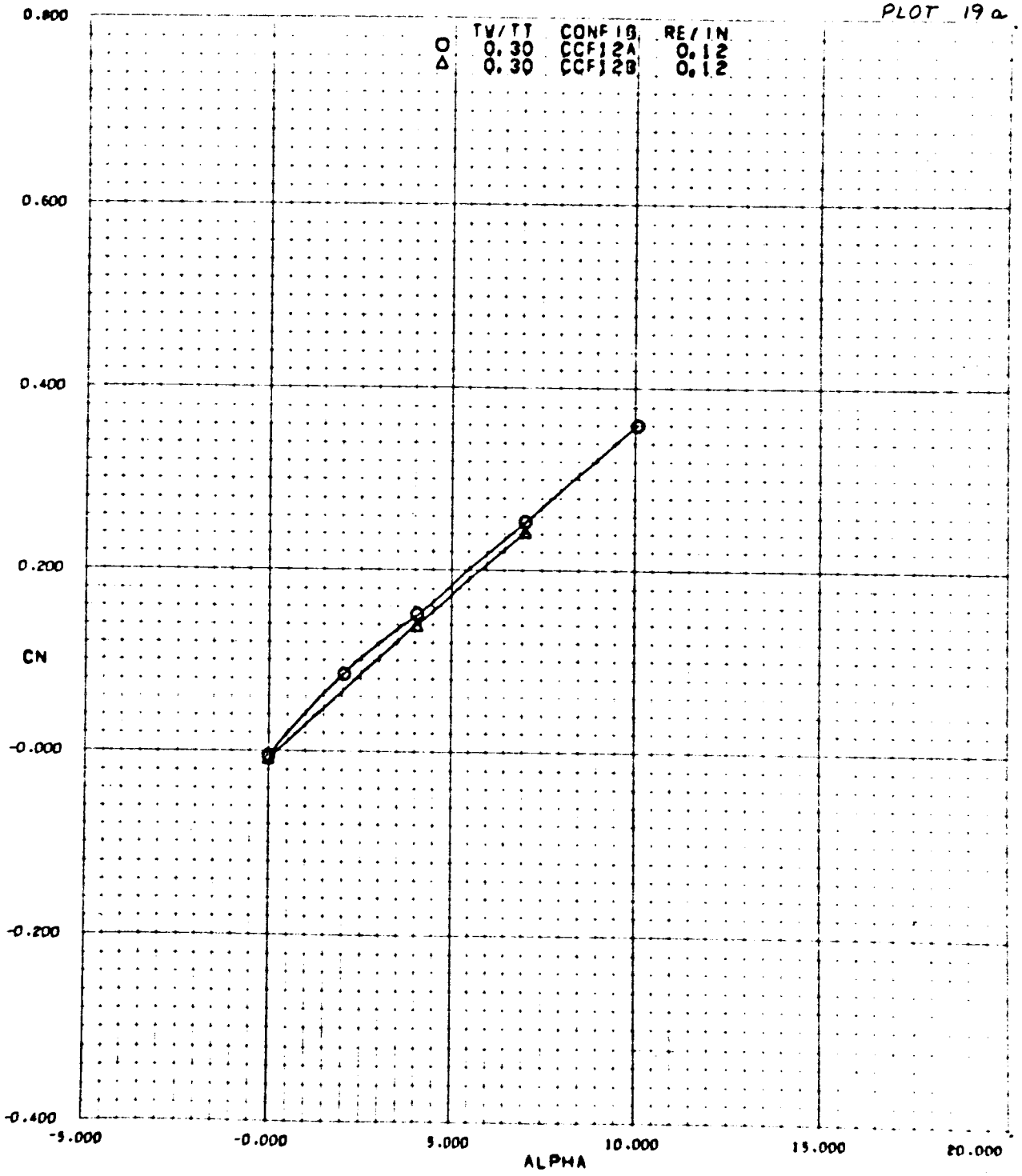
89

PLOT 18e.

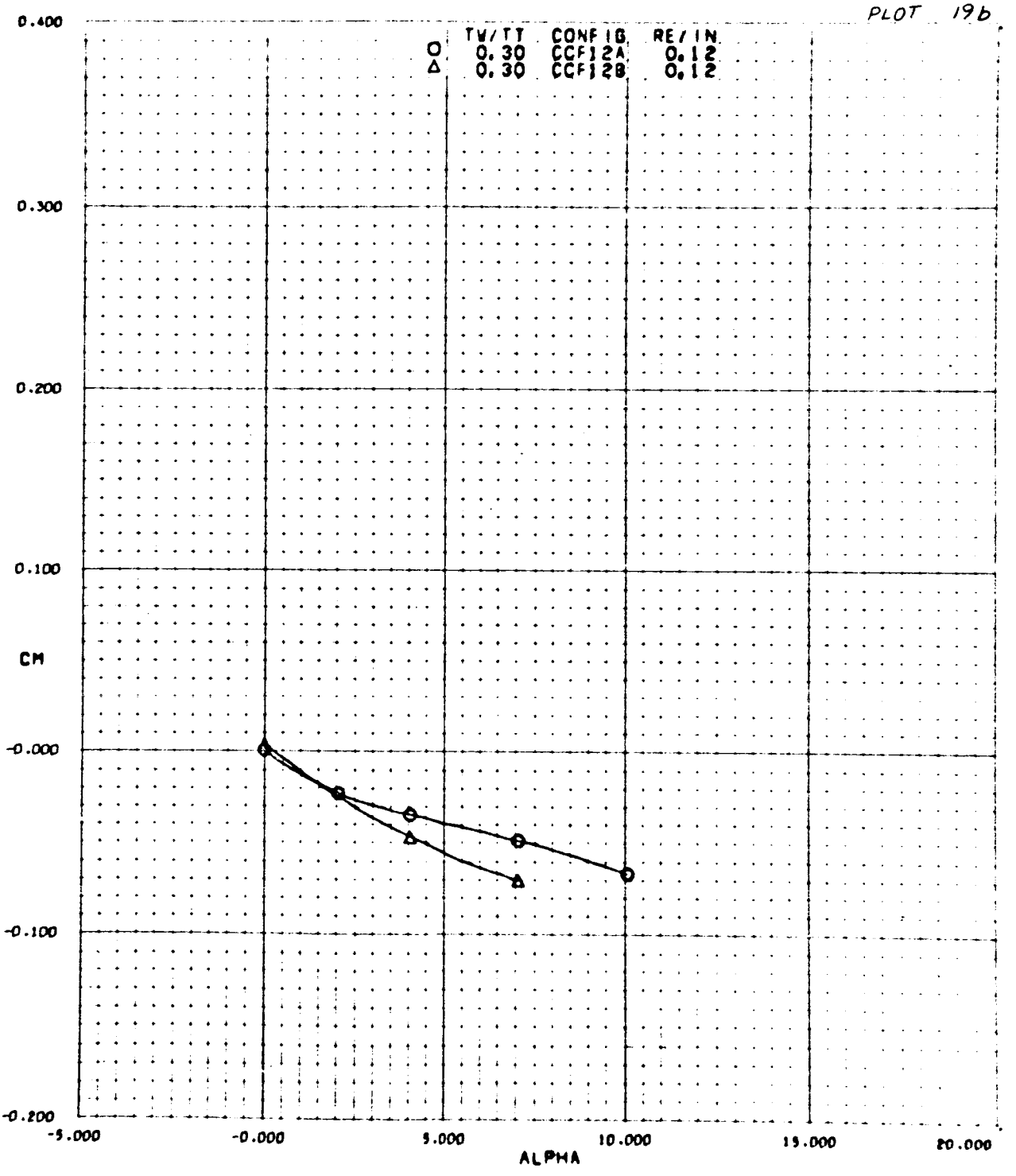

TW/TT CONFIG. RE/IN
O 0.20 CCF12A 0.12
Δ 0.20 CCF12B 0.12
0.300
0.250
0.200
0.150
CD
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

90

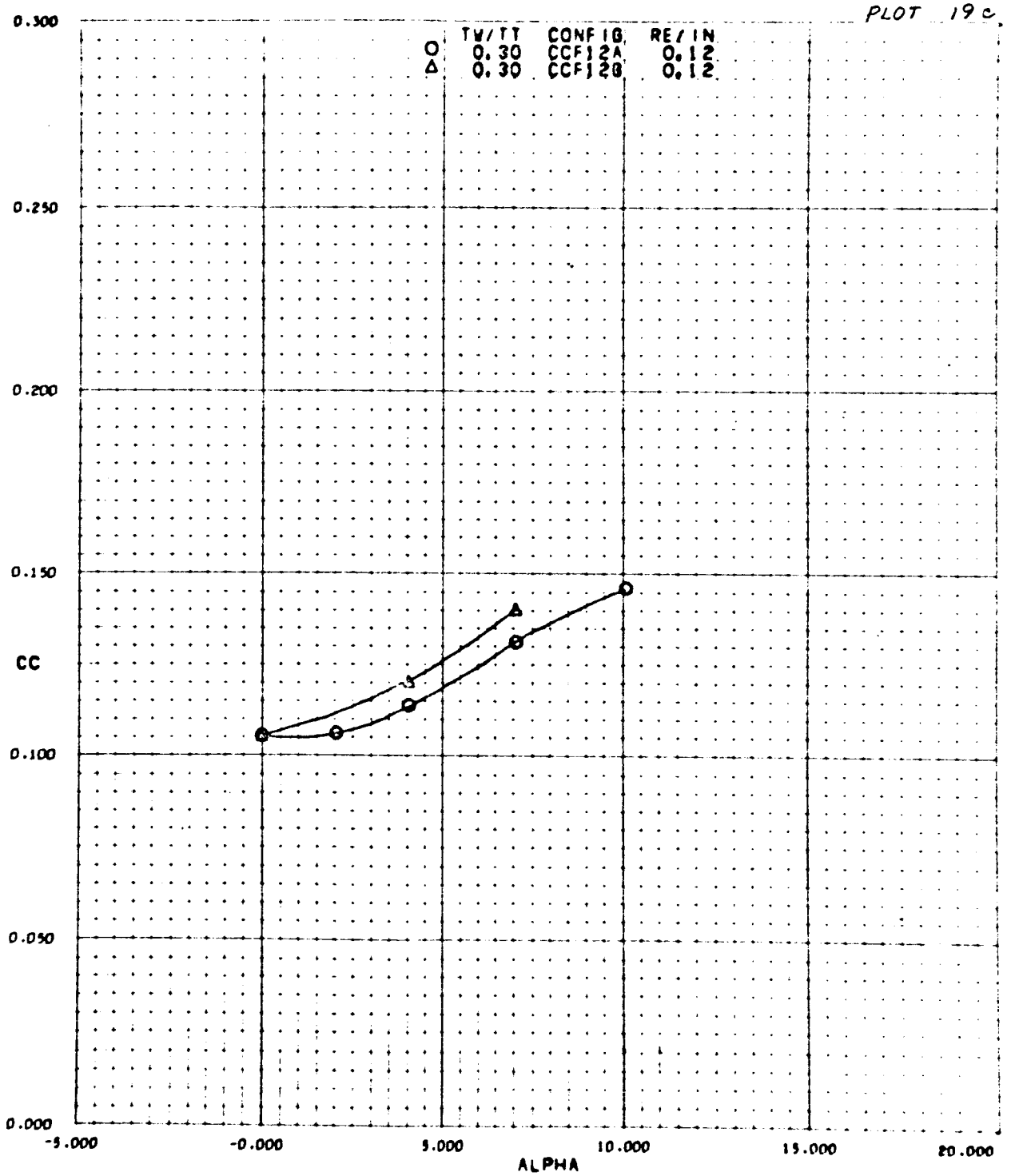
PLOT 19a

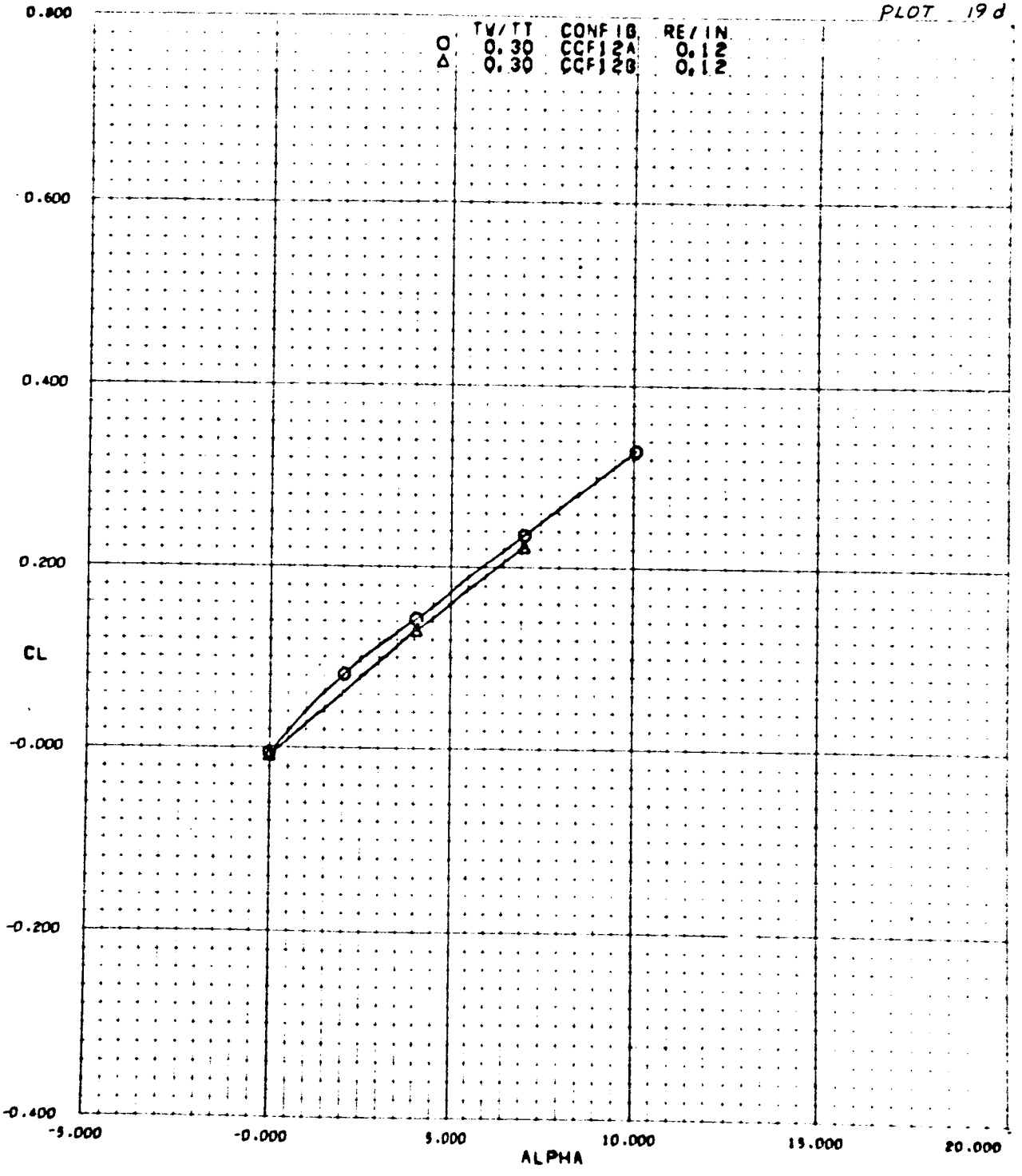

TV/TT CONFIG RE/IN
O 0.30 CCF12A 0.12
Δ 0.30 CCF12B 0.12
0.800
0.600
0.400
0.200
CN
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 19b

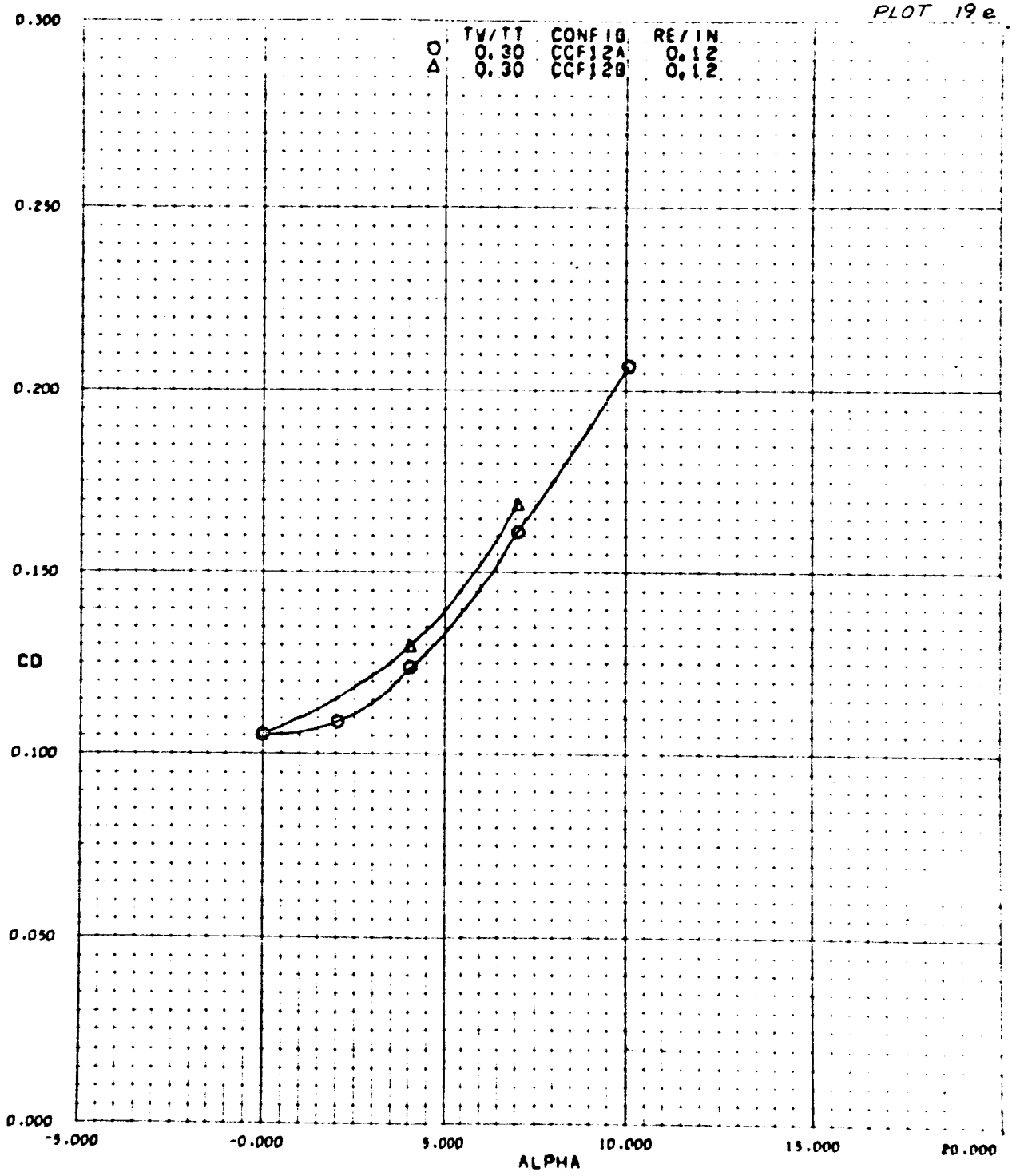

TW/TT CONFIG RE/IN
O 0.30 CCF12A 0.12
Δ 0.30 CCF12B 0.12
0.400
0.300
0.200
0.100
CM
-0.000
-0.100
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 19c

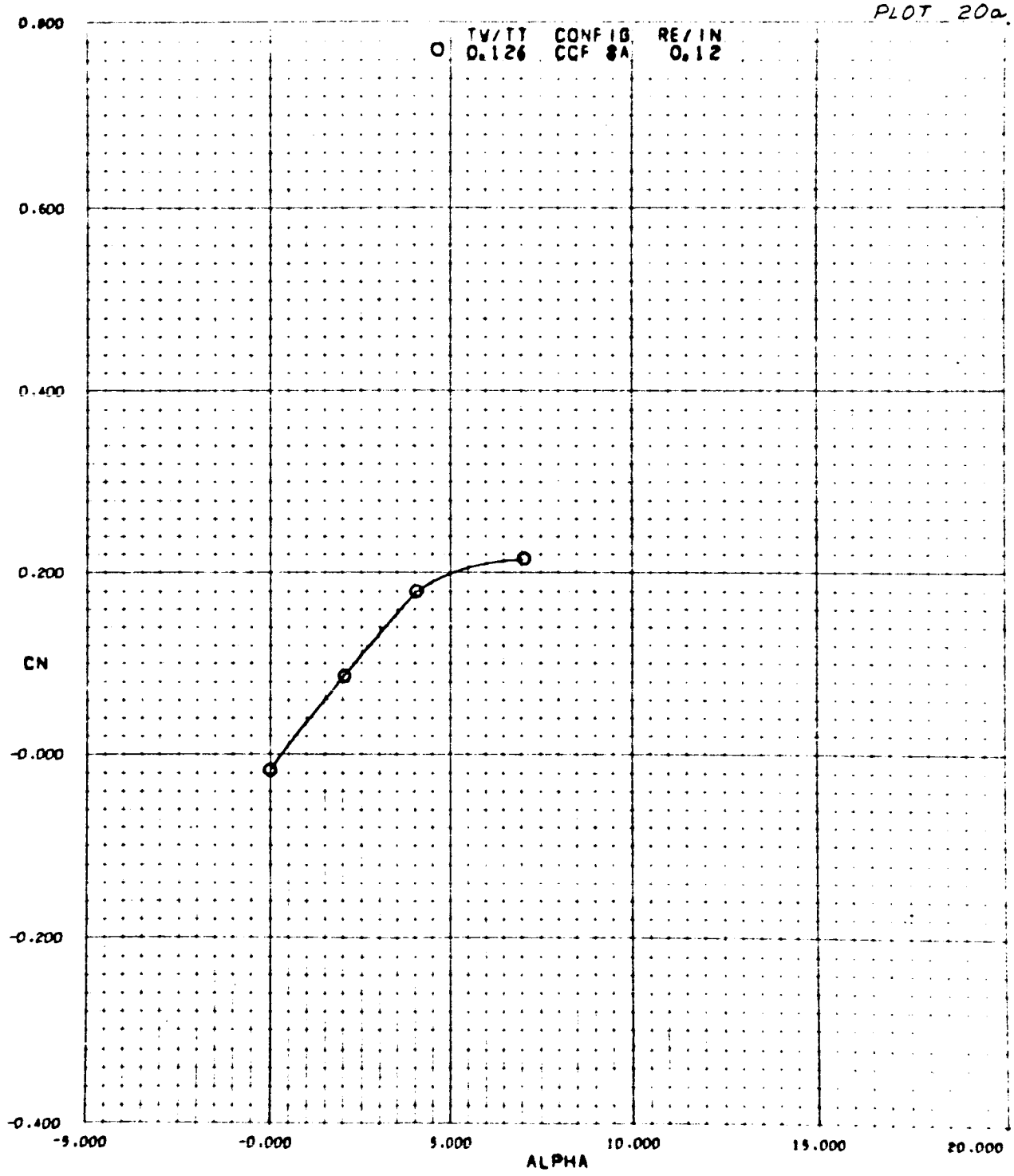

TW/TT CONFIG RE/IN
O 0.30 CCF12A 0.12
Δ 0.30 CCF12B 0.12
0.300
0.250
0.200
0.150
0.100
0.050
0.000
CC
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA


PLOT 19 d
TW/TT CONFIG. RE/IN
O 0.30 CCF12A 0.12
Δ 0.30 CCF12B 0.12
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

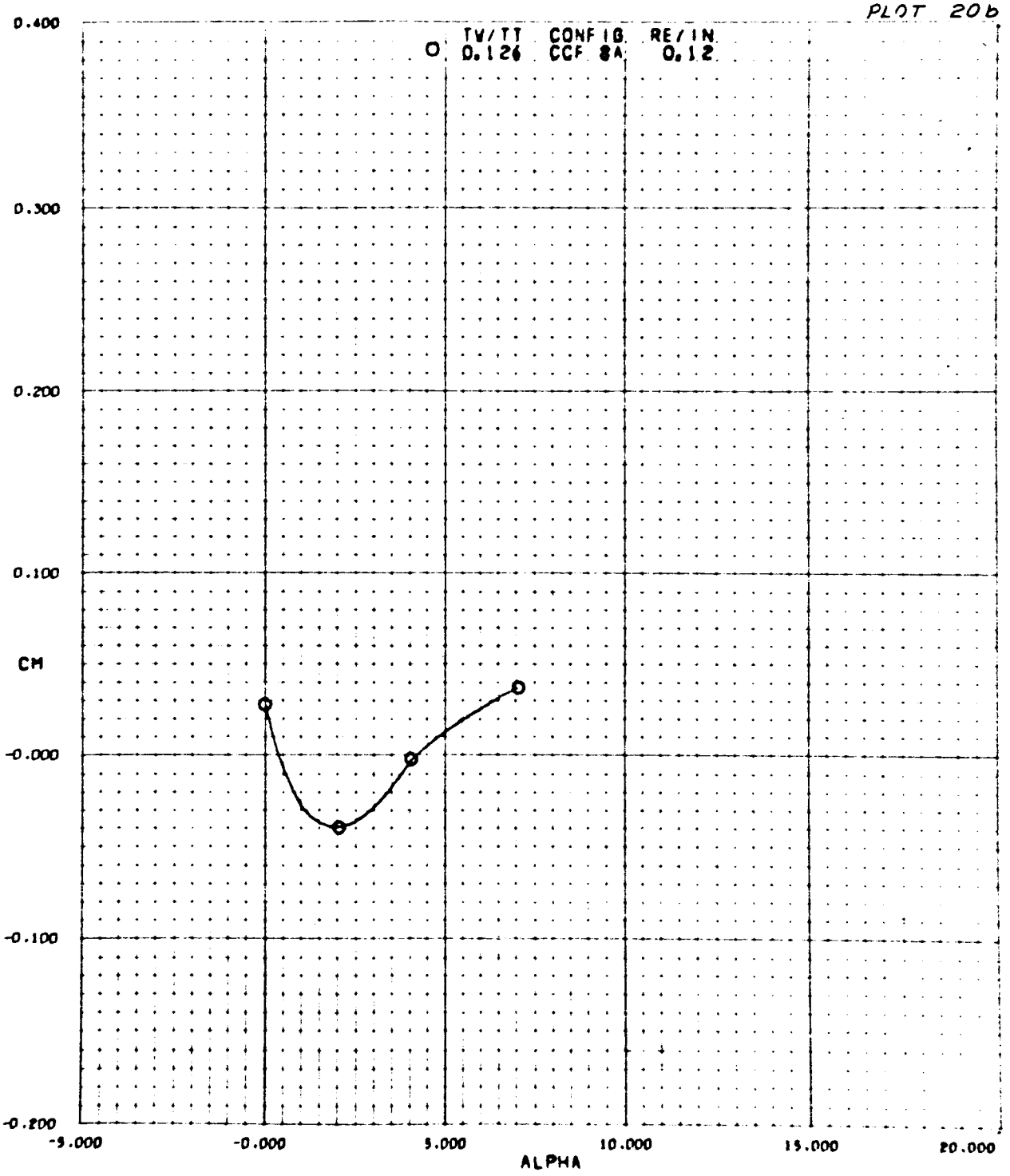
PLOT 19e

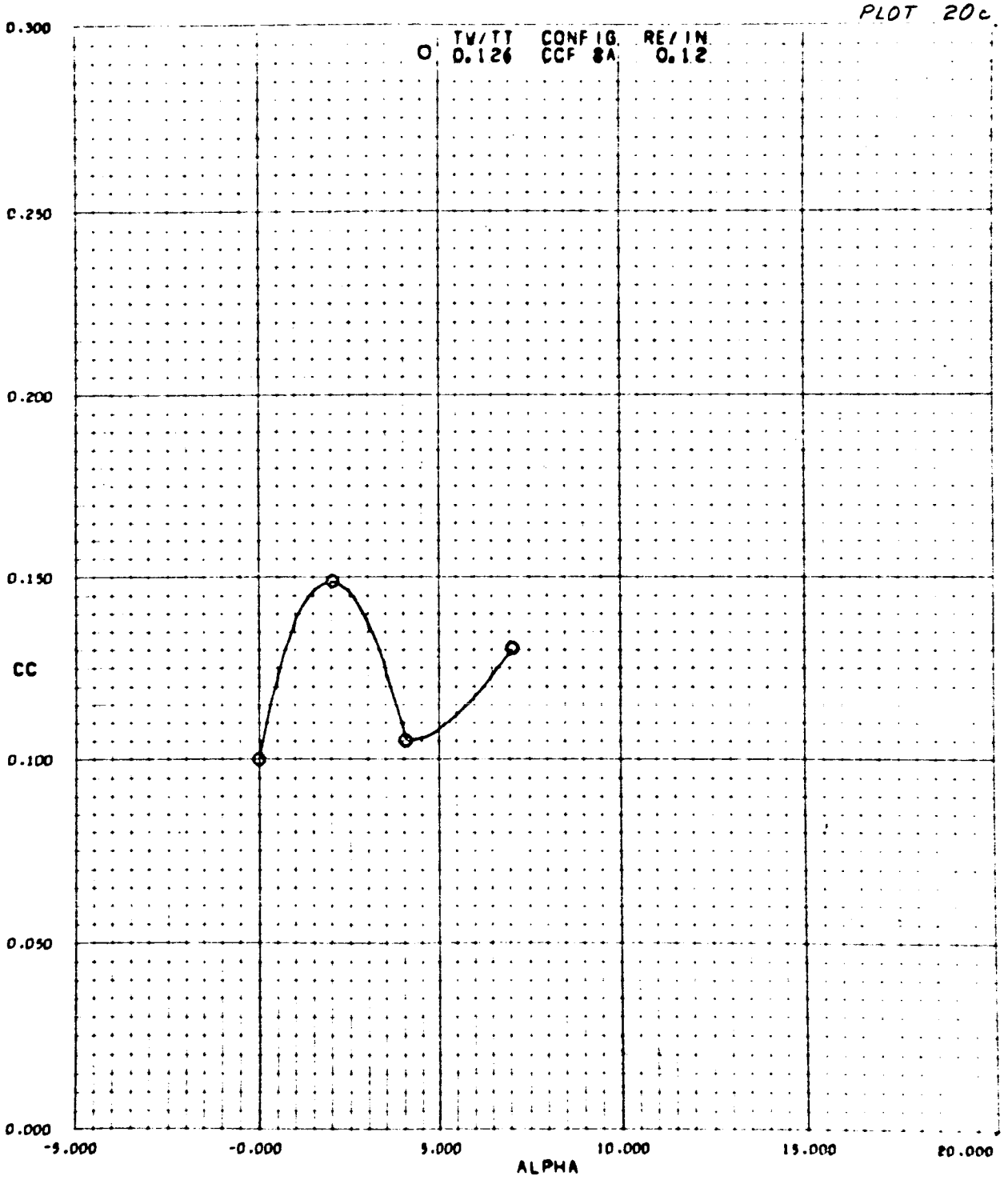

TW/TT CONFIG RE/IN
O 0.30 CCF12A 0.12
Δ 0.30 CCF12B 0.12
0.300
0.250
0.200
0.150
0.100
0.050
0.000
CD
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 20a


TV/TT CONFIG. RE/IN
0.126 CCF 8A 0.12
0.800
0.600
0.400
0.200
CN
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

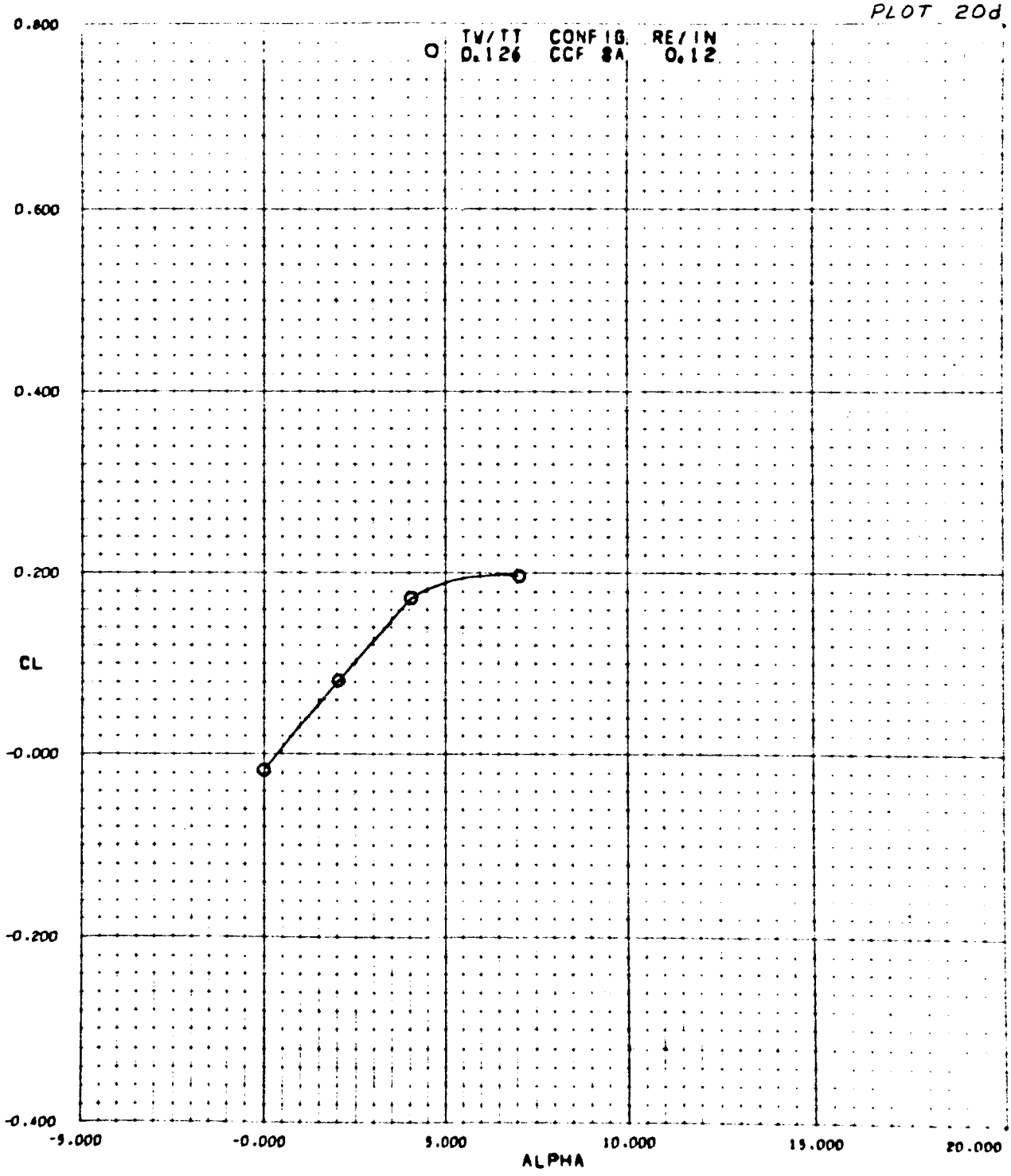
PLOT 20b


TV/TT CONFIG RE/IN
0.126 CCF 8A 0.12
0.400
0.300
0.200
0.100
CM
-0.000
-0.100
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

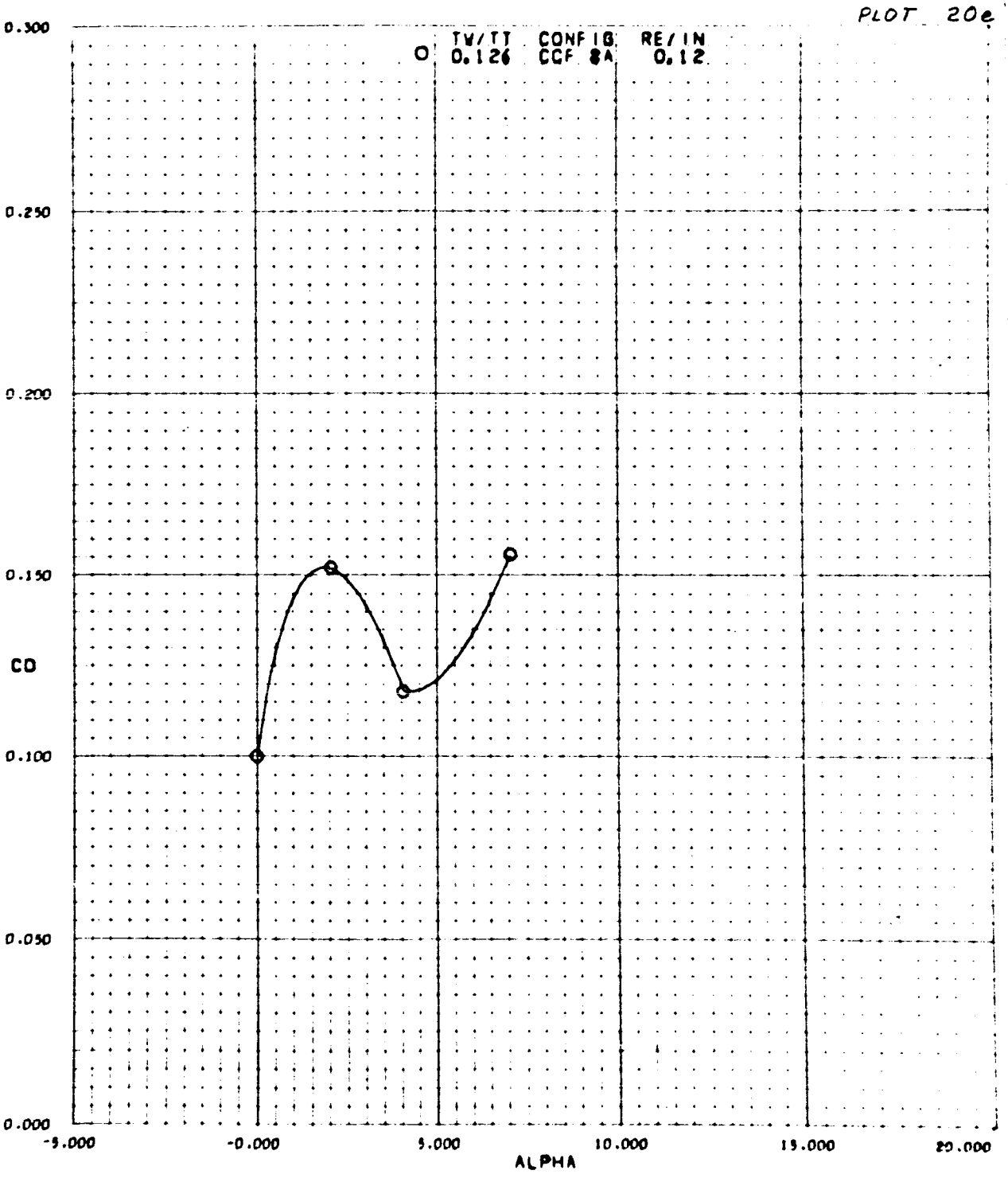

PLOT 20c
O TW/TT 0.126 CONFIG CCF 8A RE/IN 0.12
0.300
0.250
0.200
0.150
CC
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

98

PLOT 20d

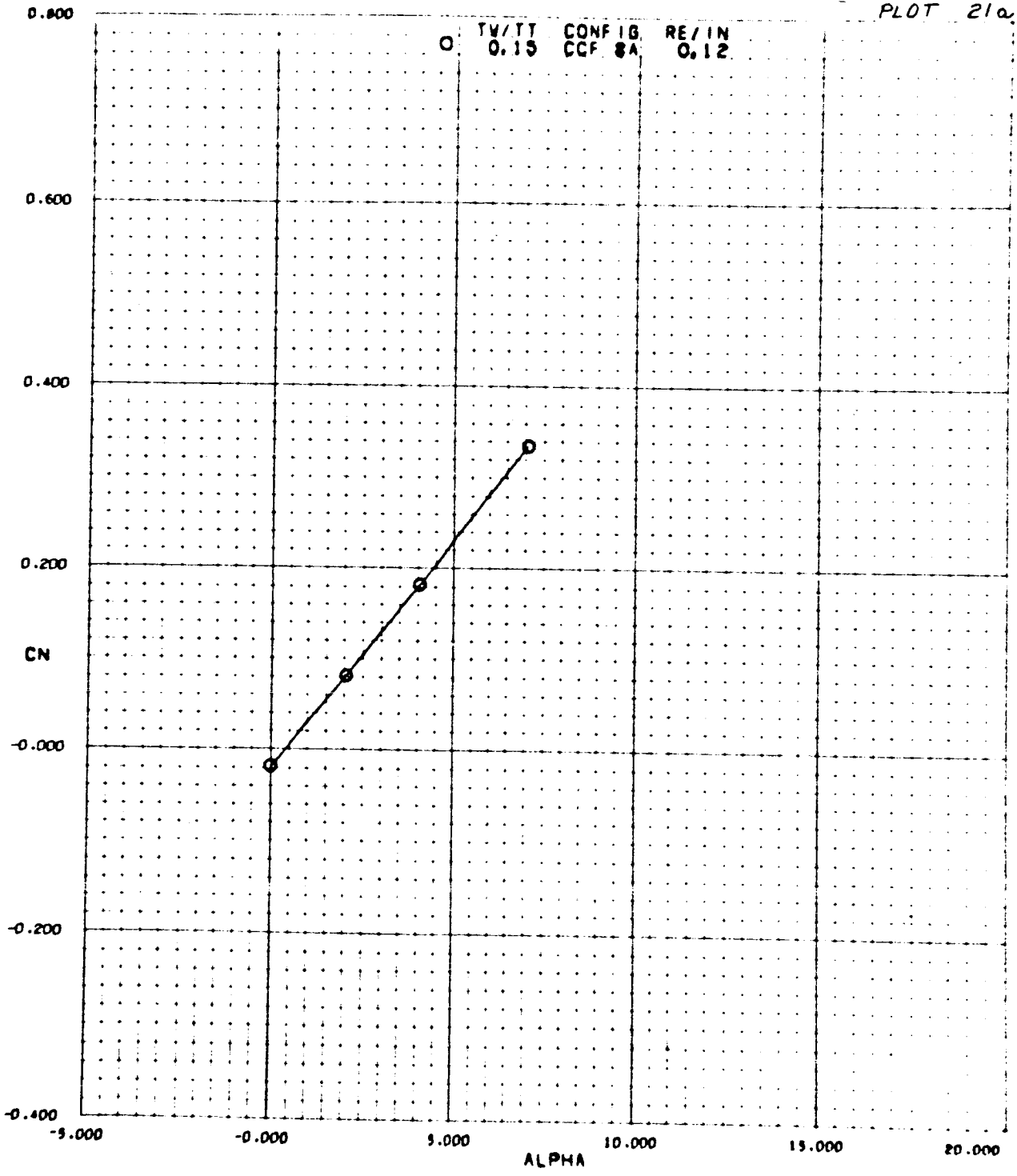

O TV/TT 0.126 CONFIG CCF 8A RE/IN 0.12
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 20e

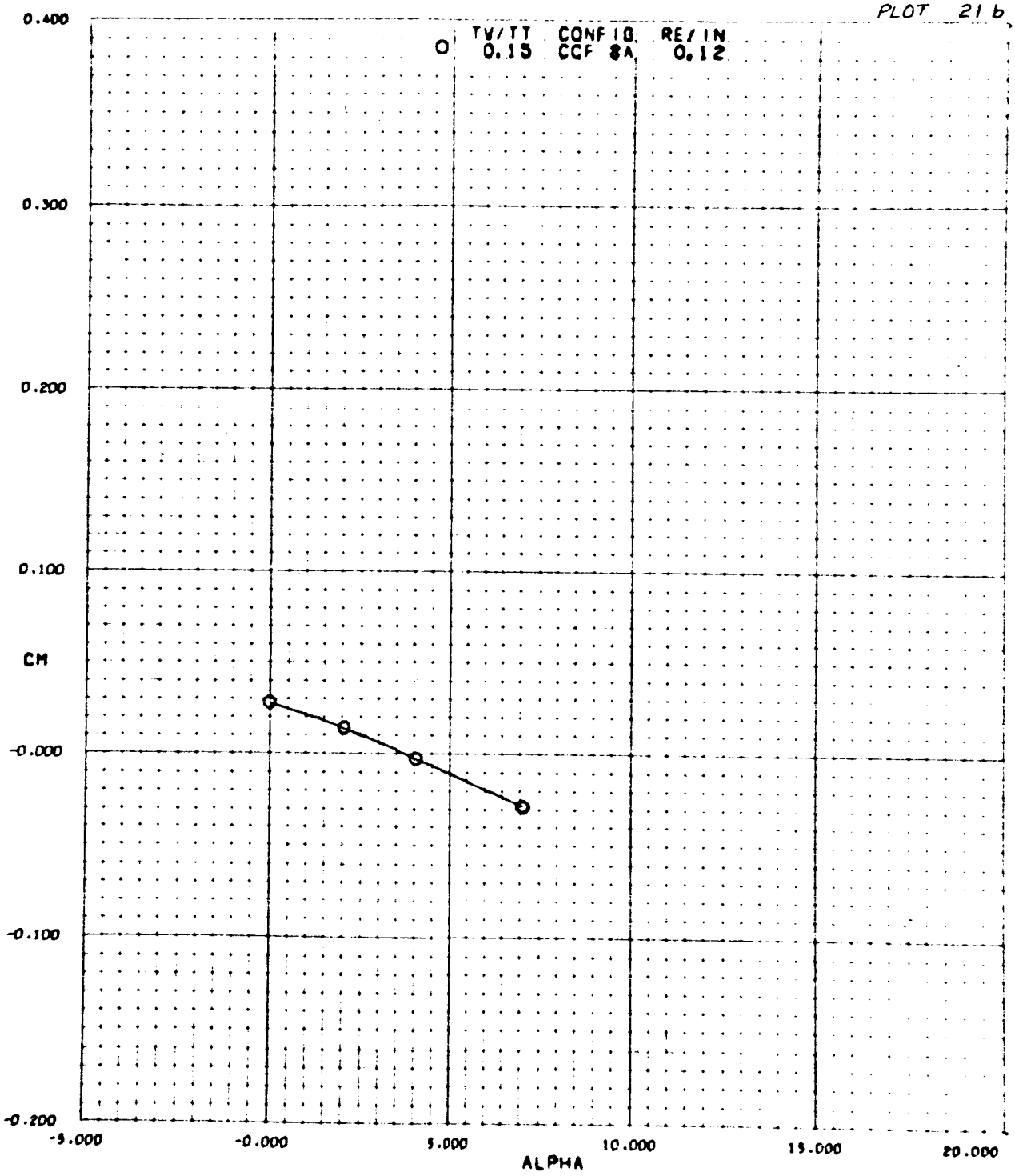

O TW/TT 0.126 CONFIG CCF 8A RE/IN 0.12
0.300
0.250
0.200
0.150
0.100
0.050
0.000
CD
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

100

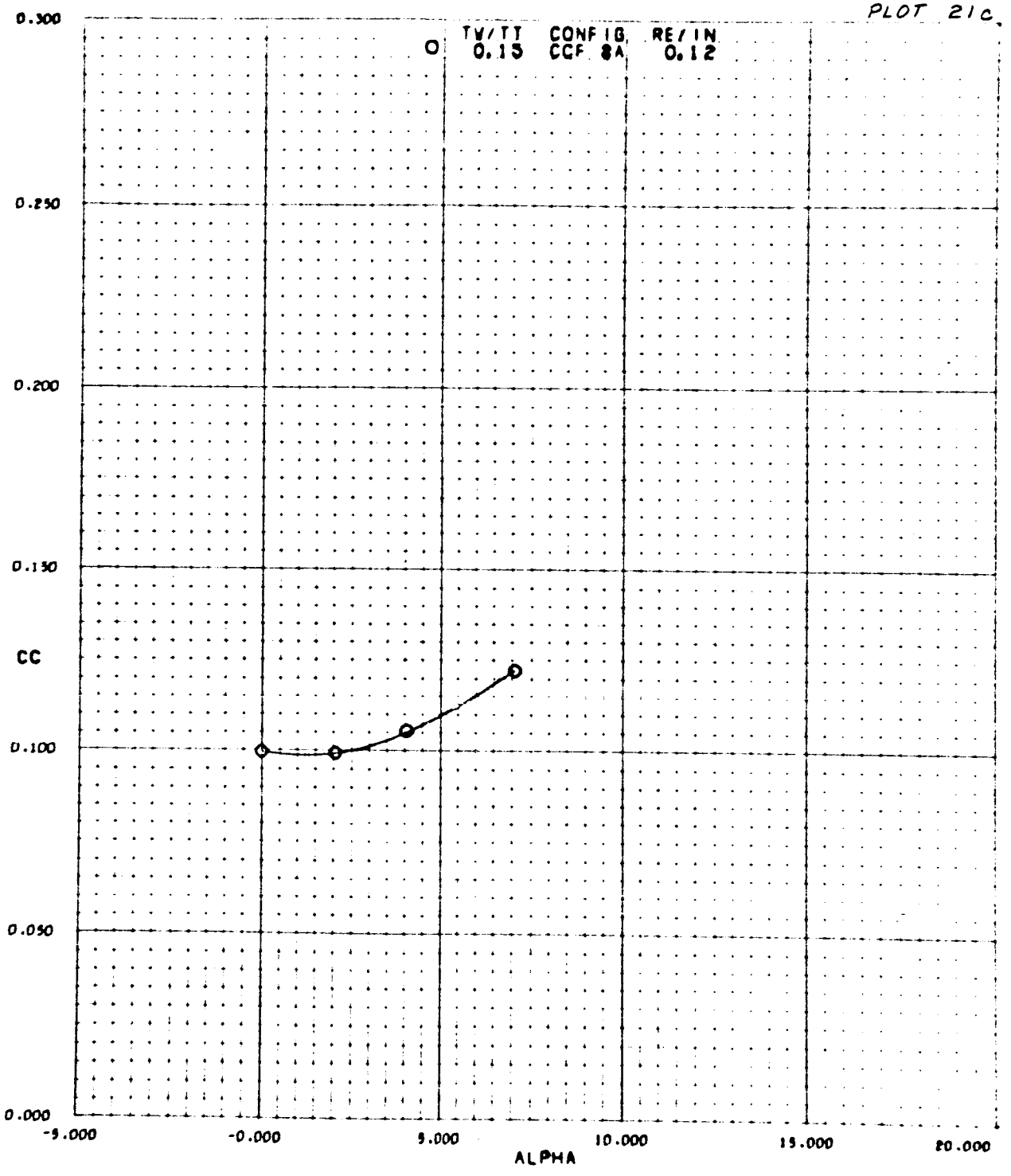
PLOT 21a


TW/TT CONFIG RE/IN
0.15 CCF 8A 0.12
0.800
0.600
0.400
0.200
CN
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

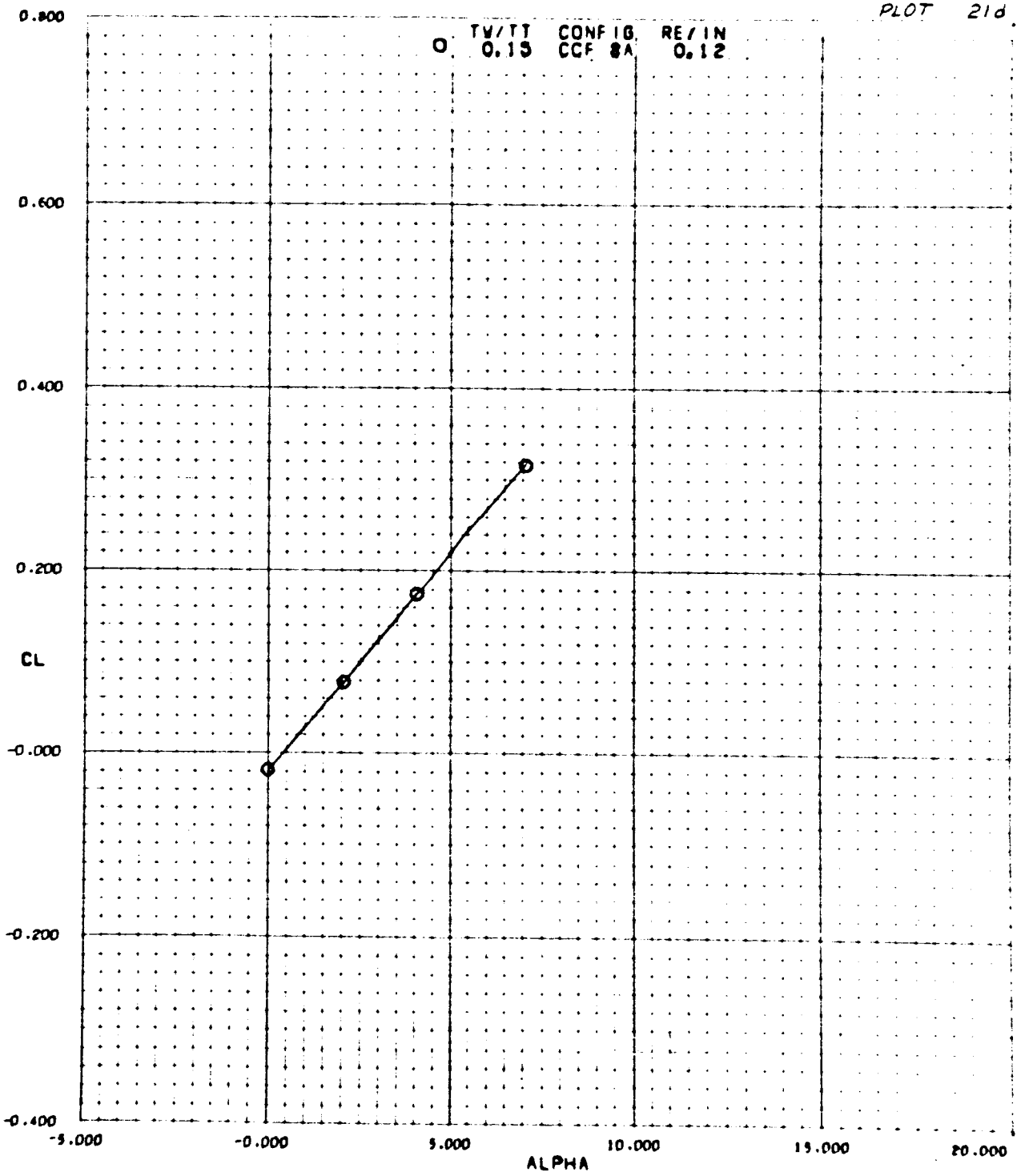
PLOT 21 b


O TV/TT 0.15 CONFIG. CCF 8A RE/IN 0.12
0.400
0.300
0.200
0.100
CM
-0.000
-0.100
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

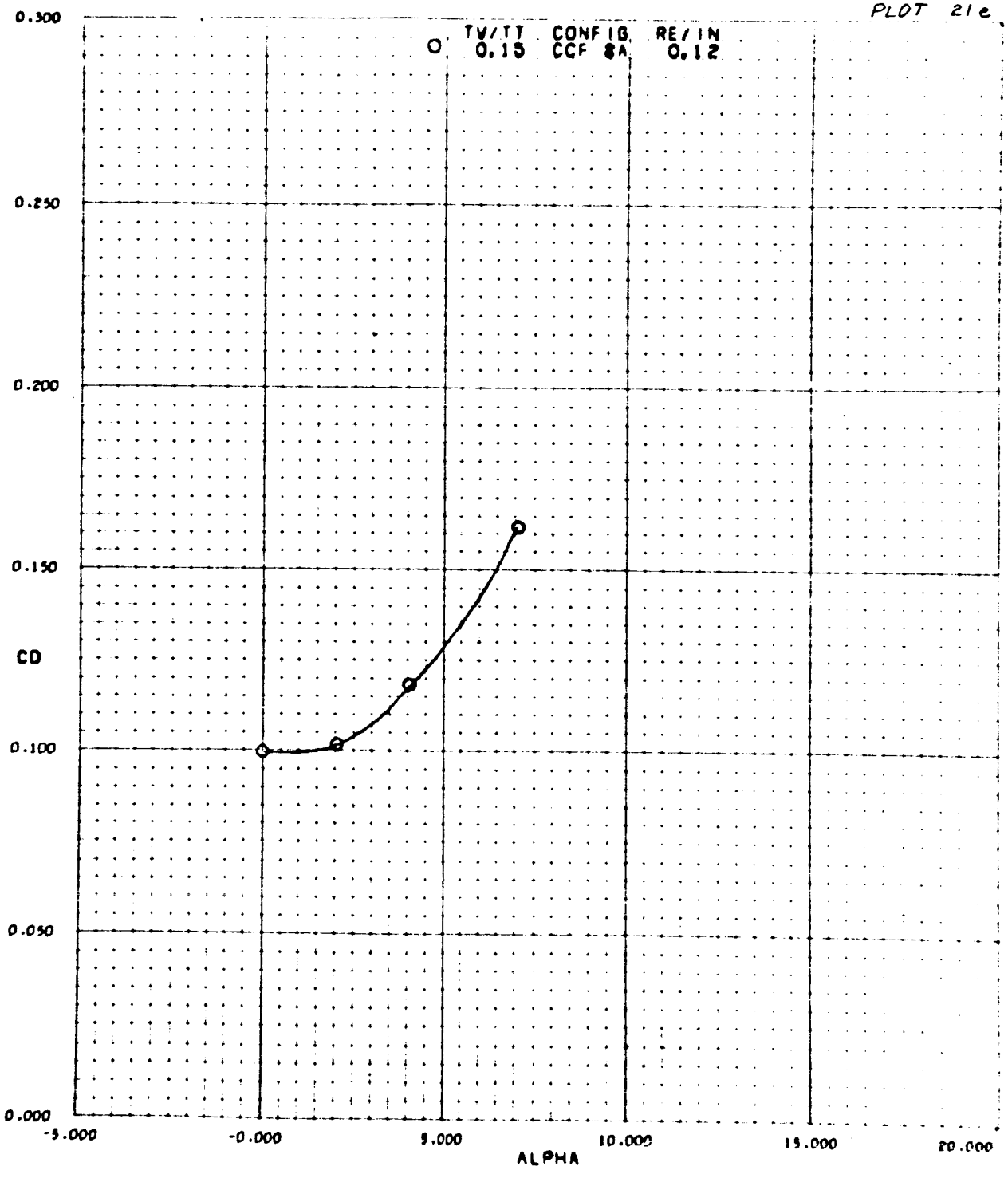
PLOT 21c


O TW/TT 0.15 CONFIG CCF 8A RE/IN 0.12
0.300
0.250
0.200
0.150
CC
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

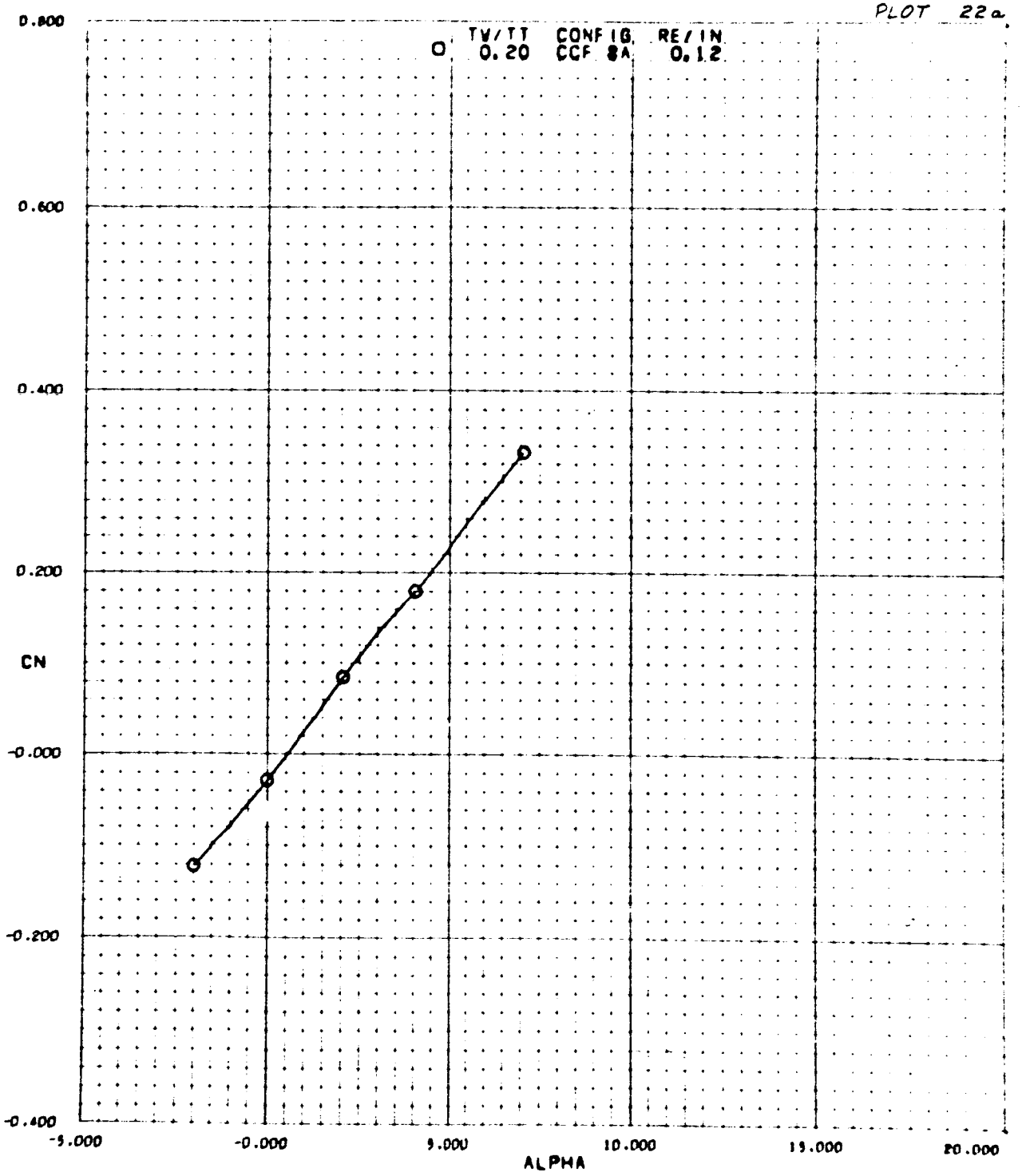
PLOT 21d


O TW/TT 0.15 CONFIG CCF 8A RE/IN 0.12
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

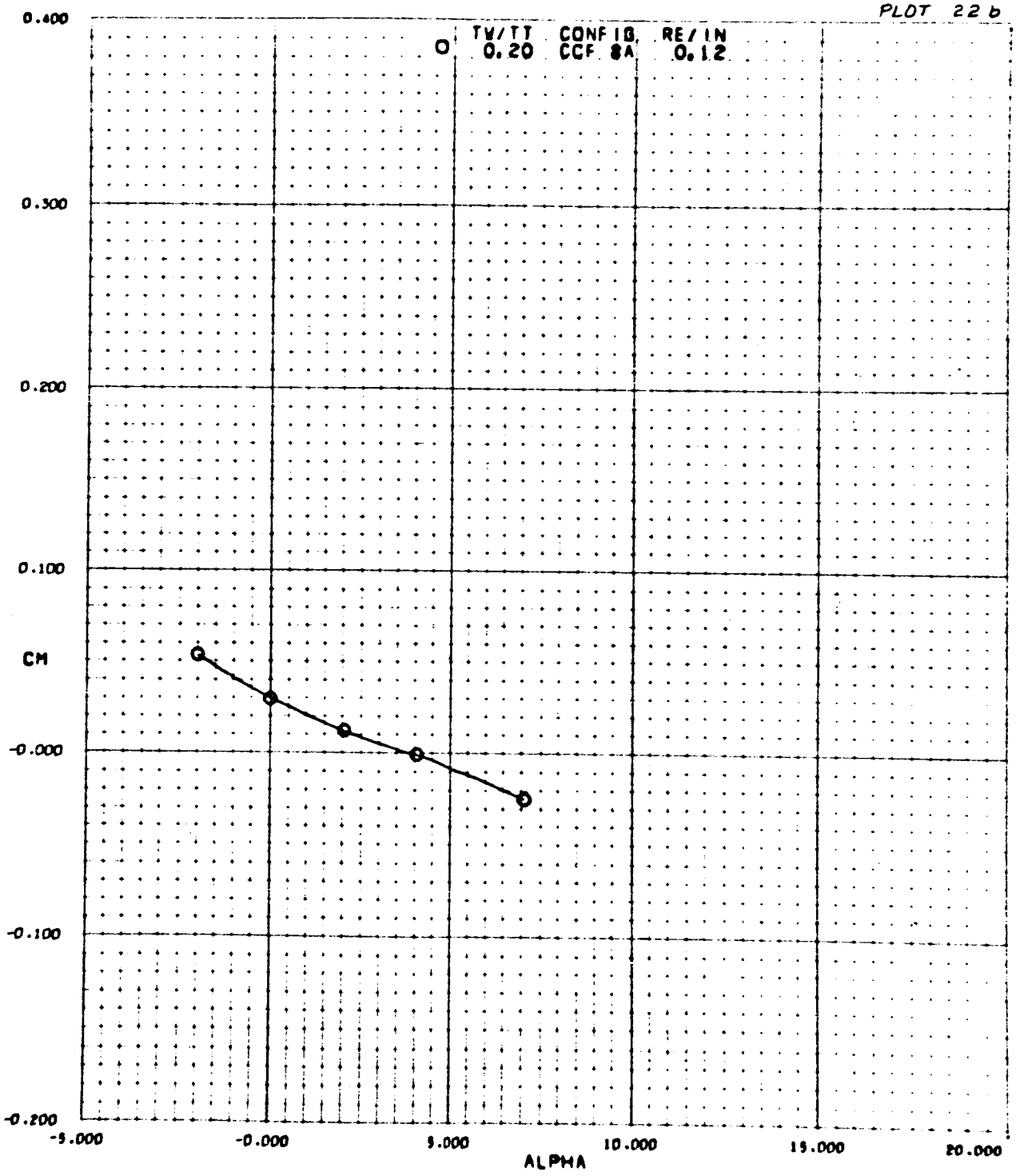
PLOT 21e


O TV/TT 0.15 CONFIG CCF 8A RE/IN 0.12
0.300
0.250
0.200
0.150
CD
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

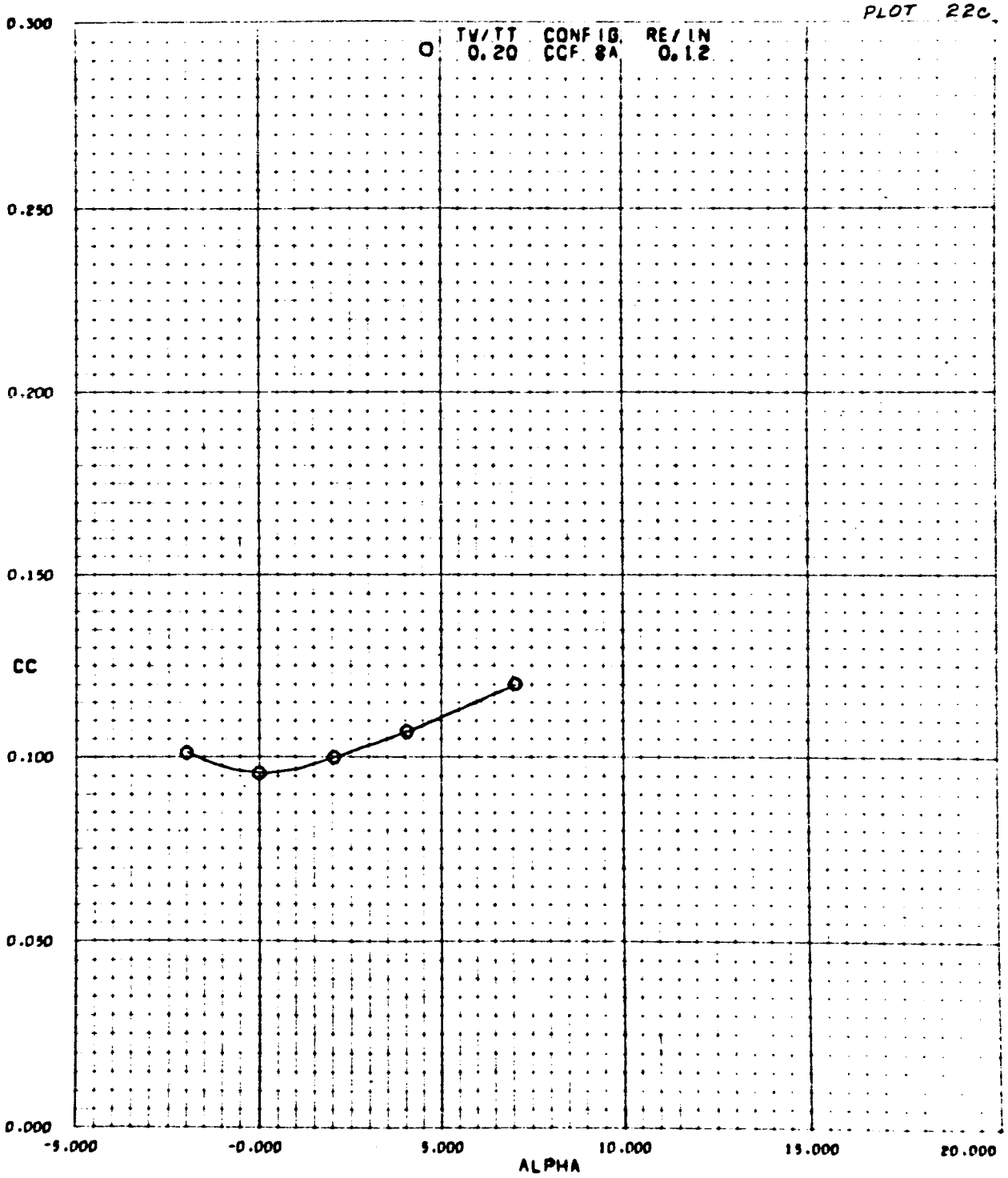
PLOT 22a


TV/TT 0.20
CONFIG. CCF 8A
RE/IN 0.12
0.800
0.600
0.400
0.200
CN
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

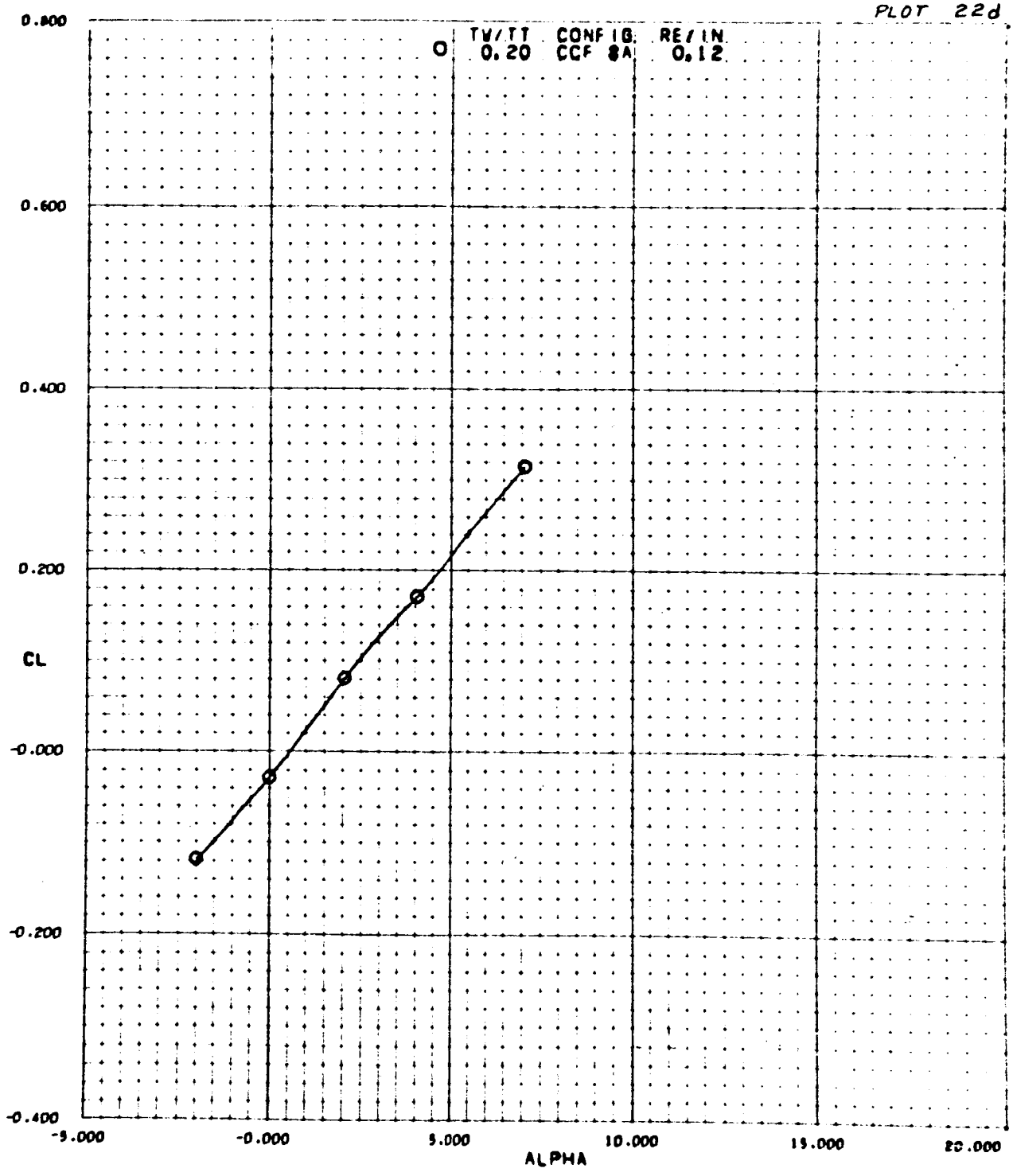
106

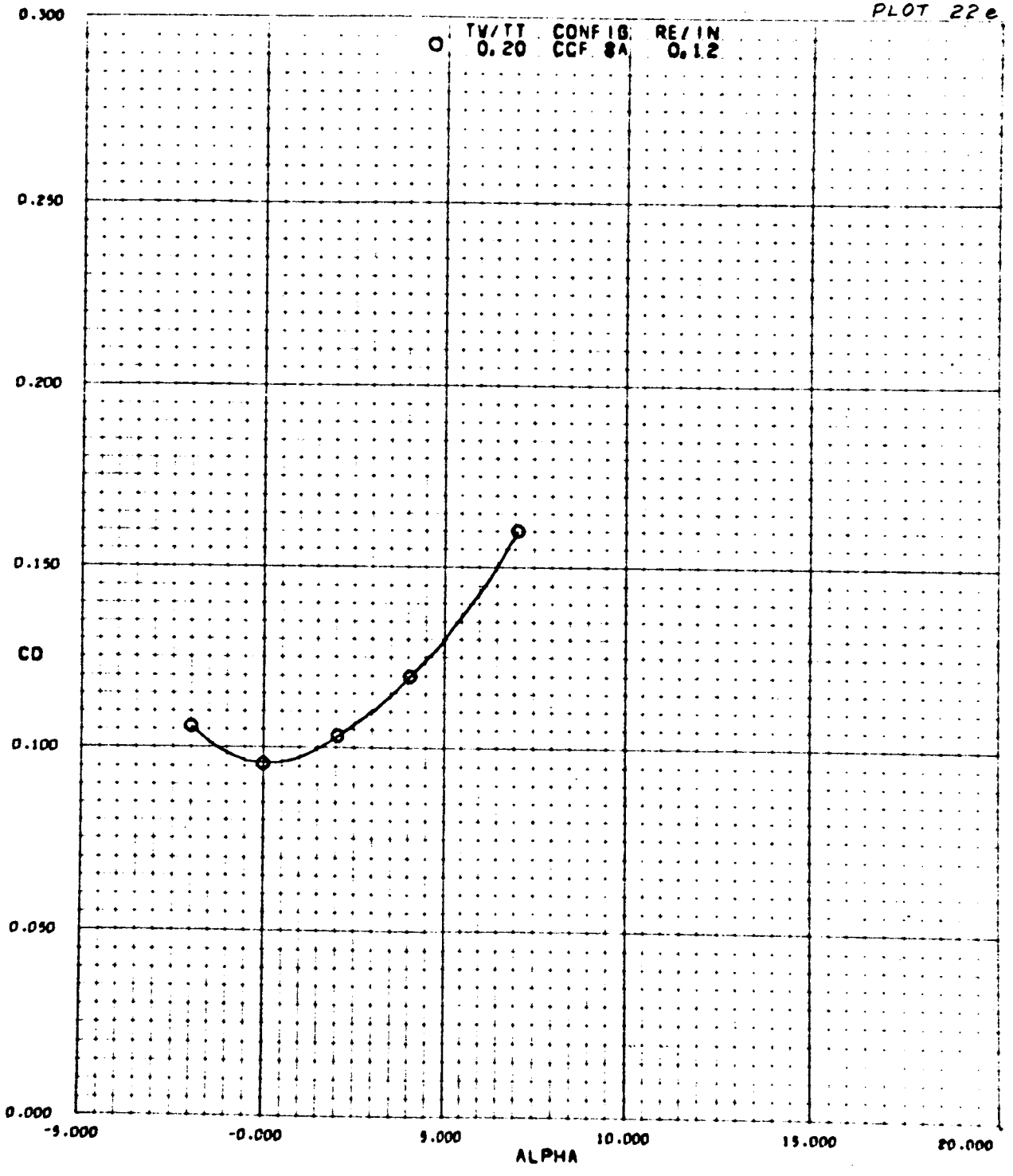

PLOT 22 b
O TW/TT 0.20 CONFIG. CCF 8A RE/IN 0.12
0.400
0.300
0.200
0.100
CM
-0.000
-0.100
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 22c


O TW/TT 0.20 CONFIG CCF 8A RE/LN 0.12
0.300
0.250
0.200
0.150
CC
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

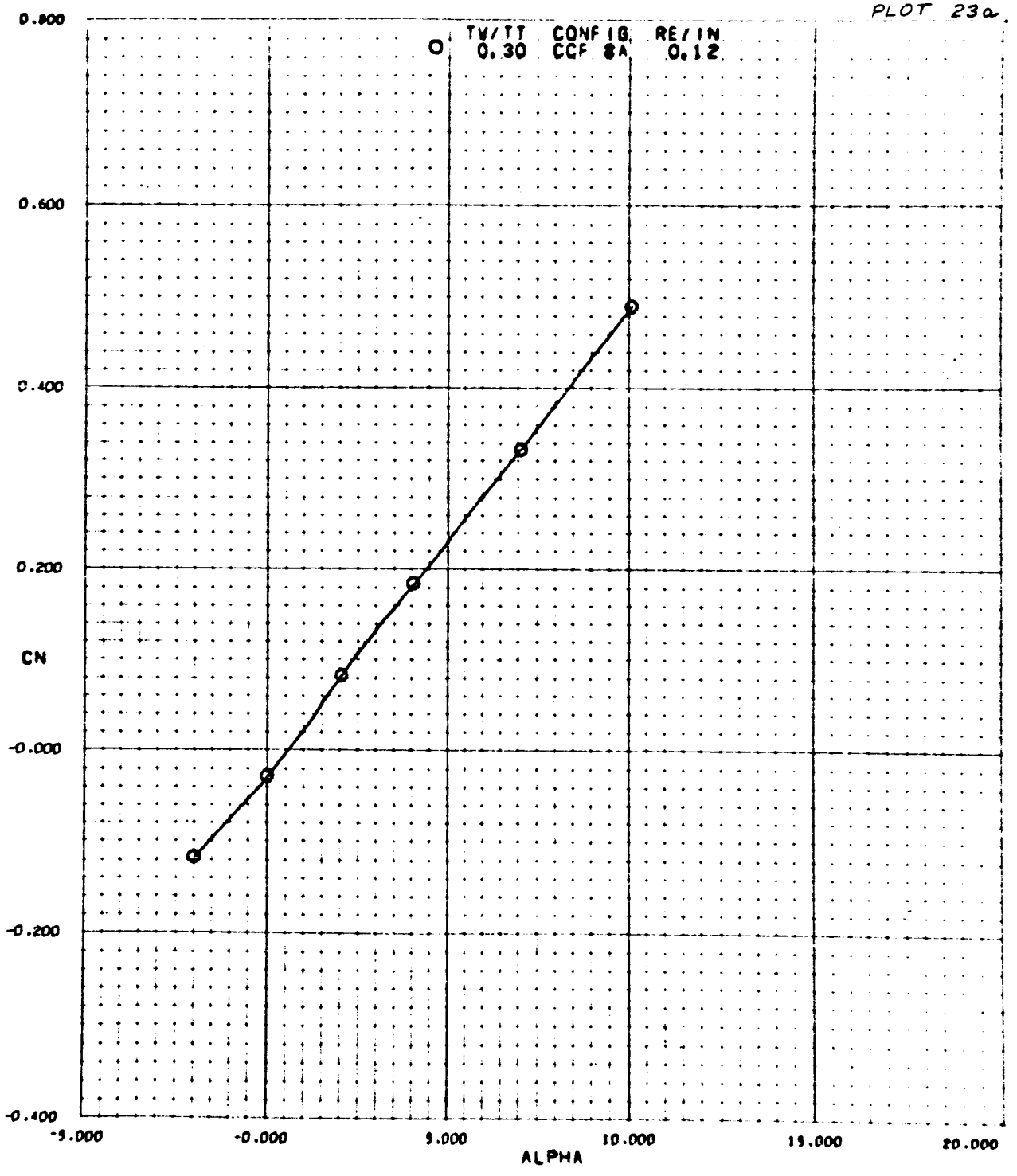
PLOT 22d


TW/TT 0.20
CONFIG CCF 8A
RE/IN 0.12
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

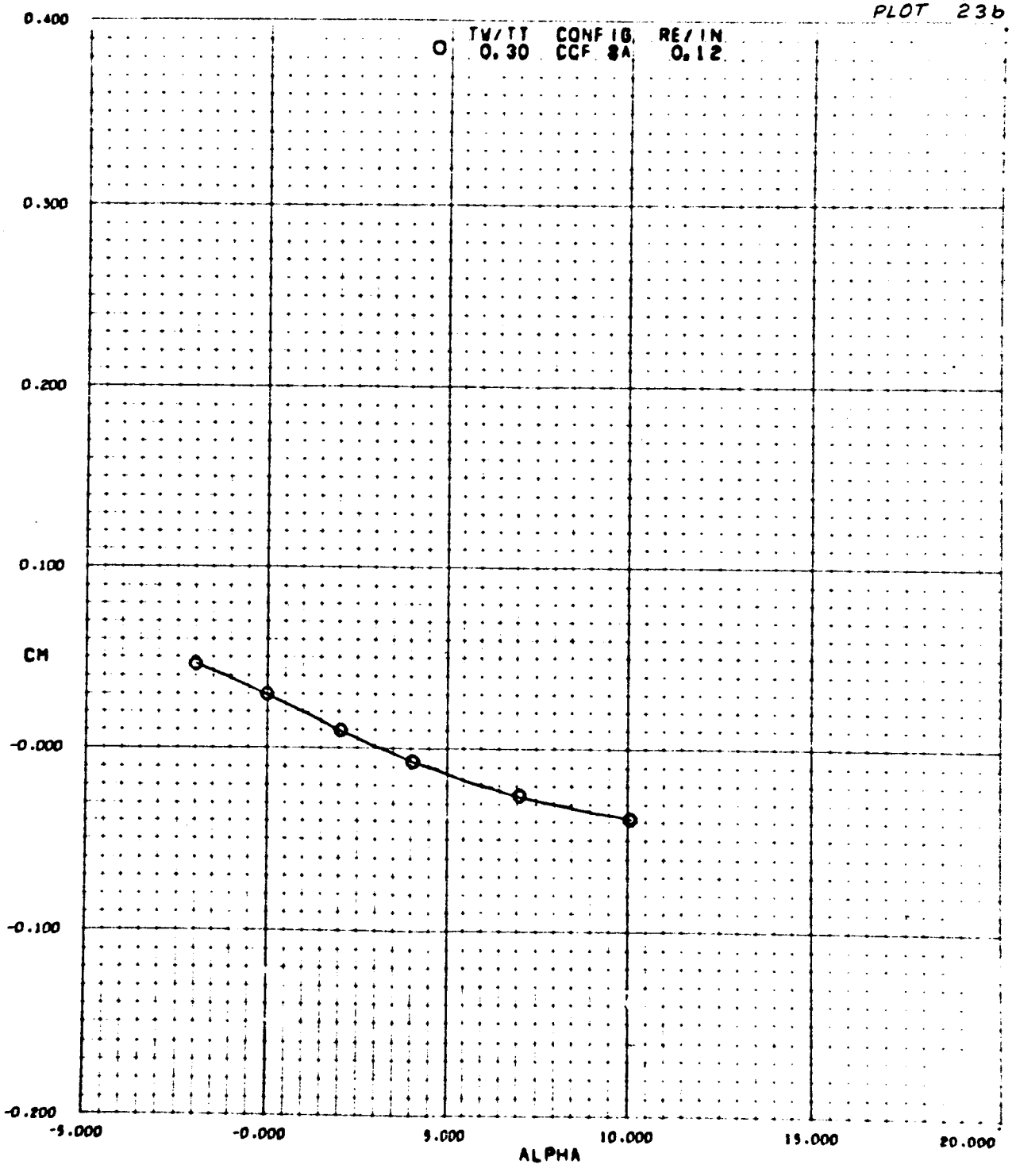

PLOT 22e
TV/TT 0.20
CONFIG CCF 8A
RE/IN 0.12
0.300
0.250
0.200
0.150
CD
0.100
0.050
0.000
-9.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

110

PLOT 23a.

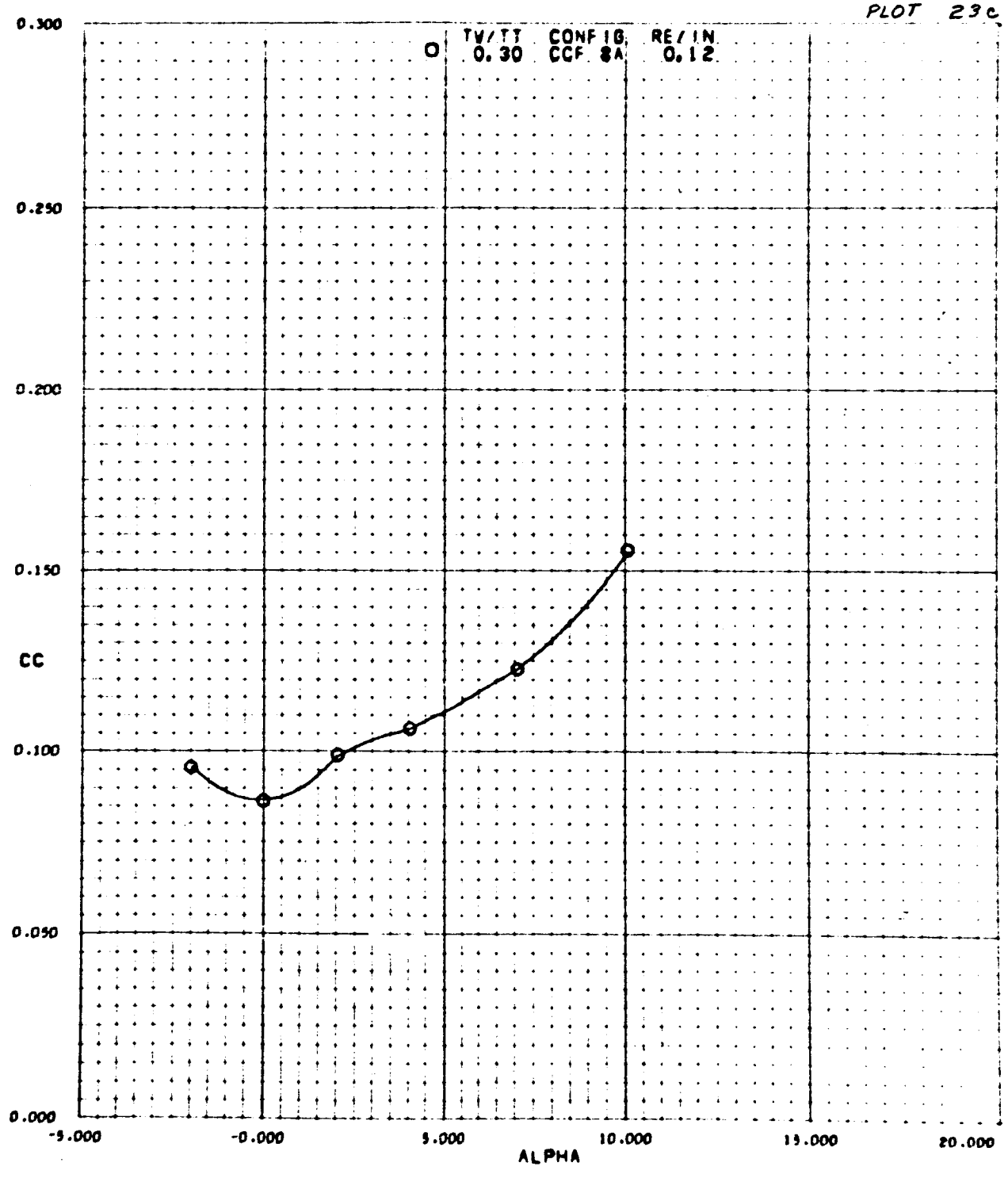

TW/TT 0.30
CONFIG. CCF 8A
RE/IN 0.12
0.800
0.600
0.400
0.200
CN
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 23b

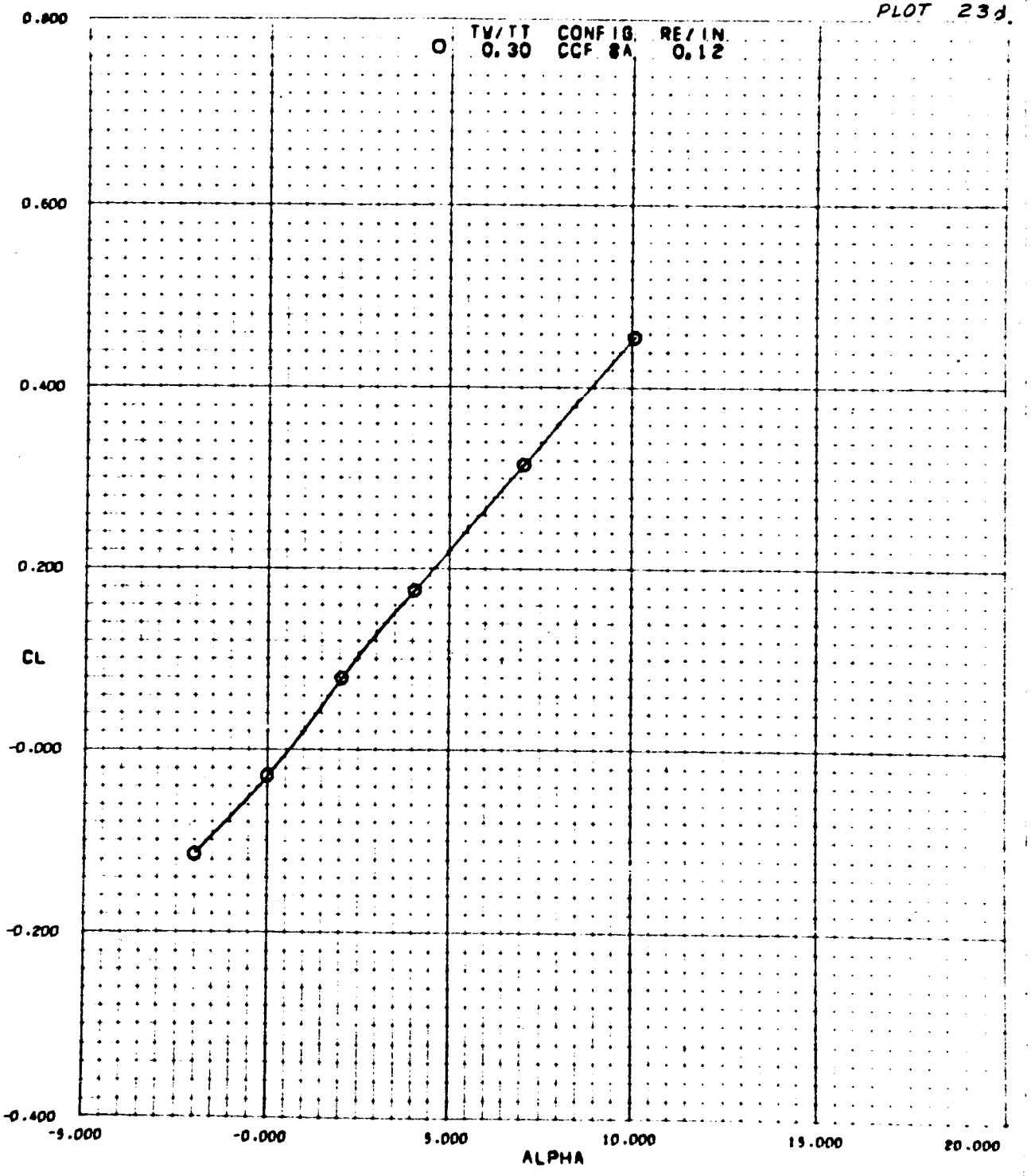

O TW/TT 0.30 CONFIG CCF 8A RE/IN 0.12
0.400
0.300
0.200
0.100
CM
-0.000
-0.100
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

112

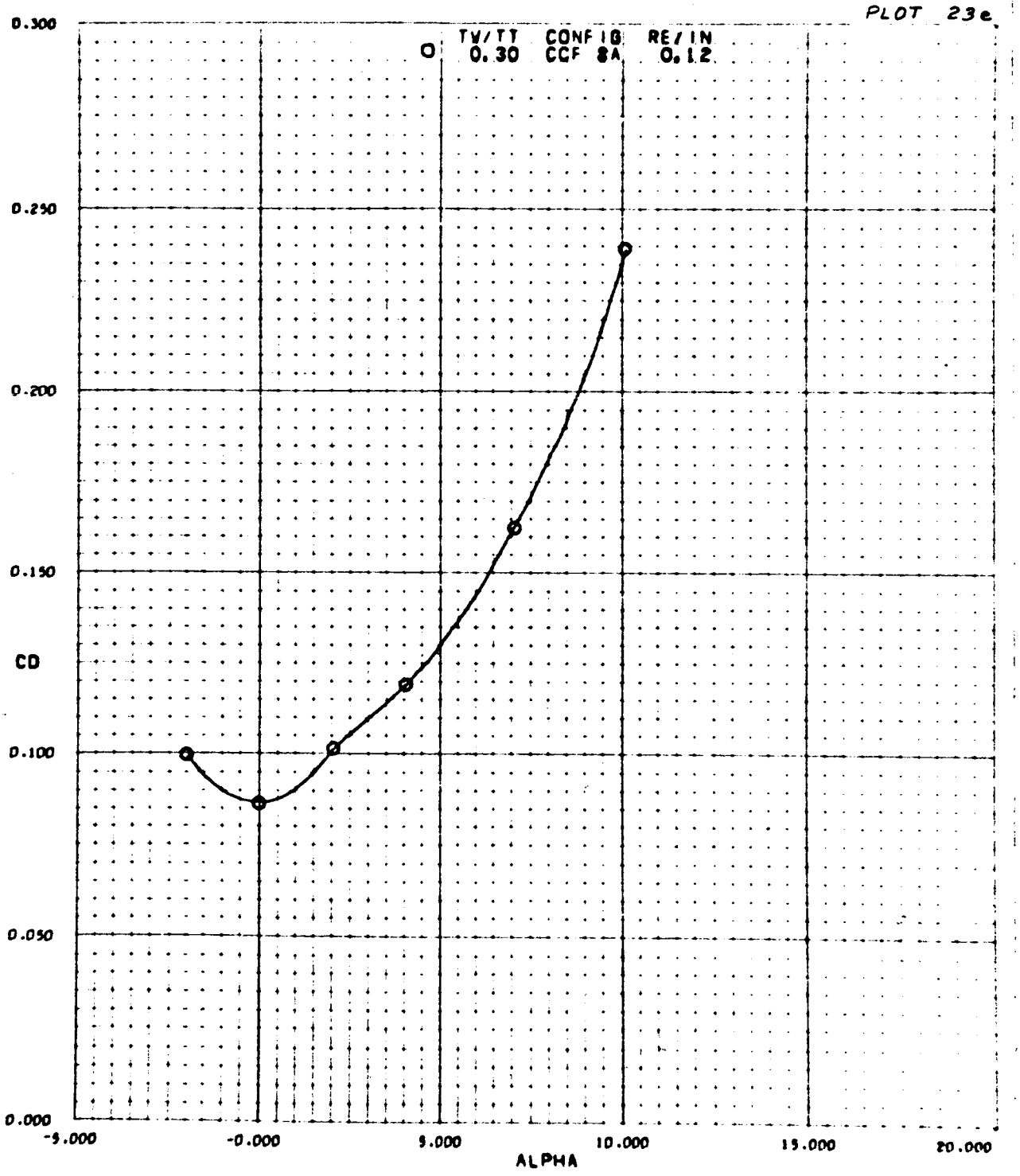
PLOT 23c


O TV/TT 0.30 CONFIG CCF 8A RE/IN 0.12
0.300
0.250
0.200
0.150
CC
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

113

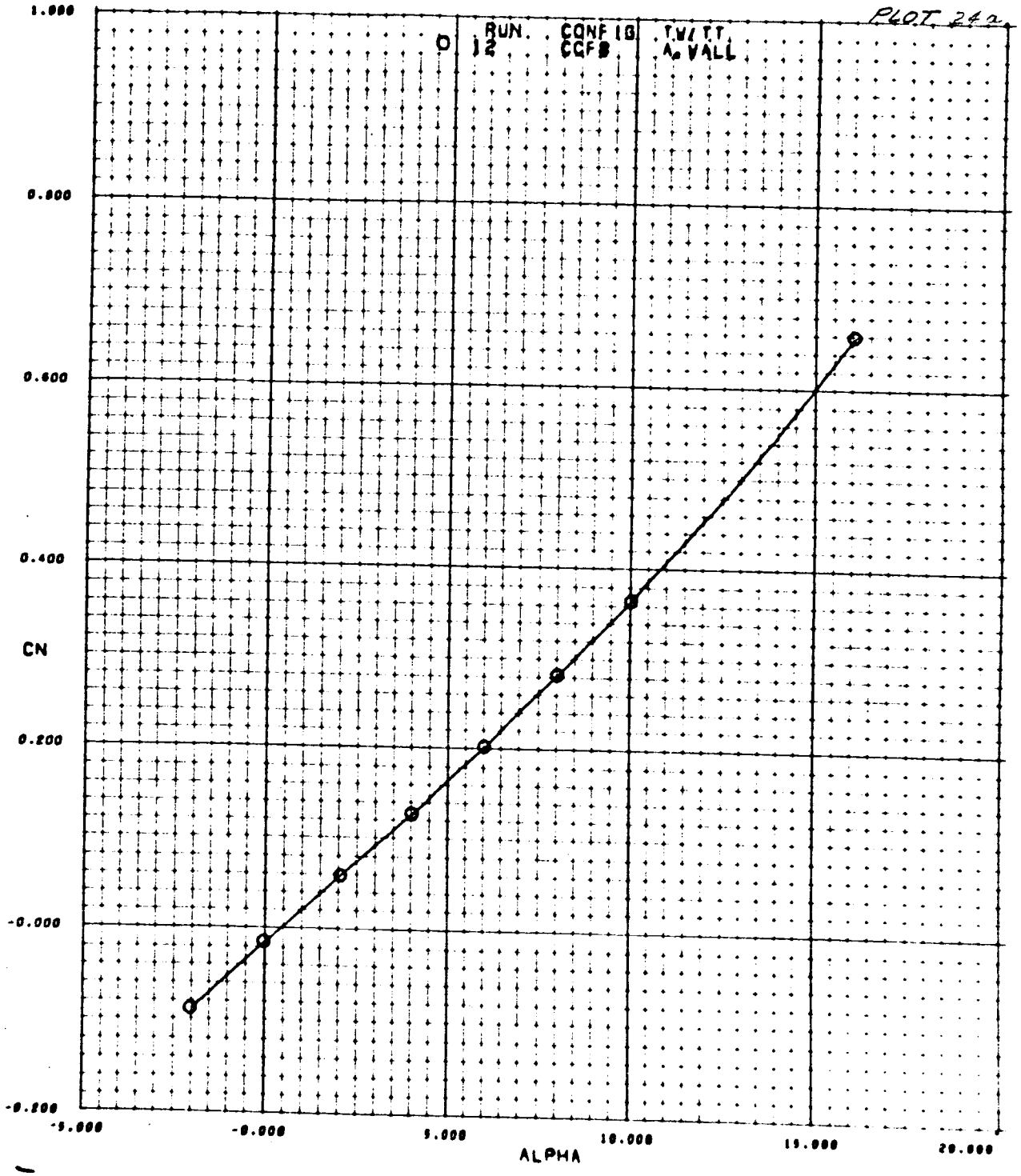

PLOT 23d
O TW/TT 0.30 CONFIG CCF 8A RE/IN 0.12
0.800
0.600
0.400
0.200
CL
-0.000
-0.200
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 23e

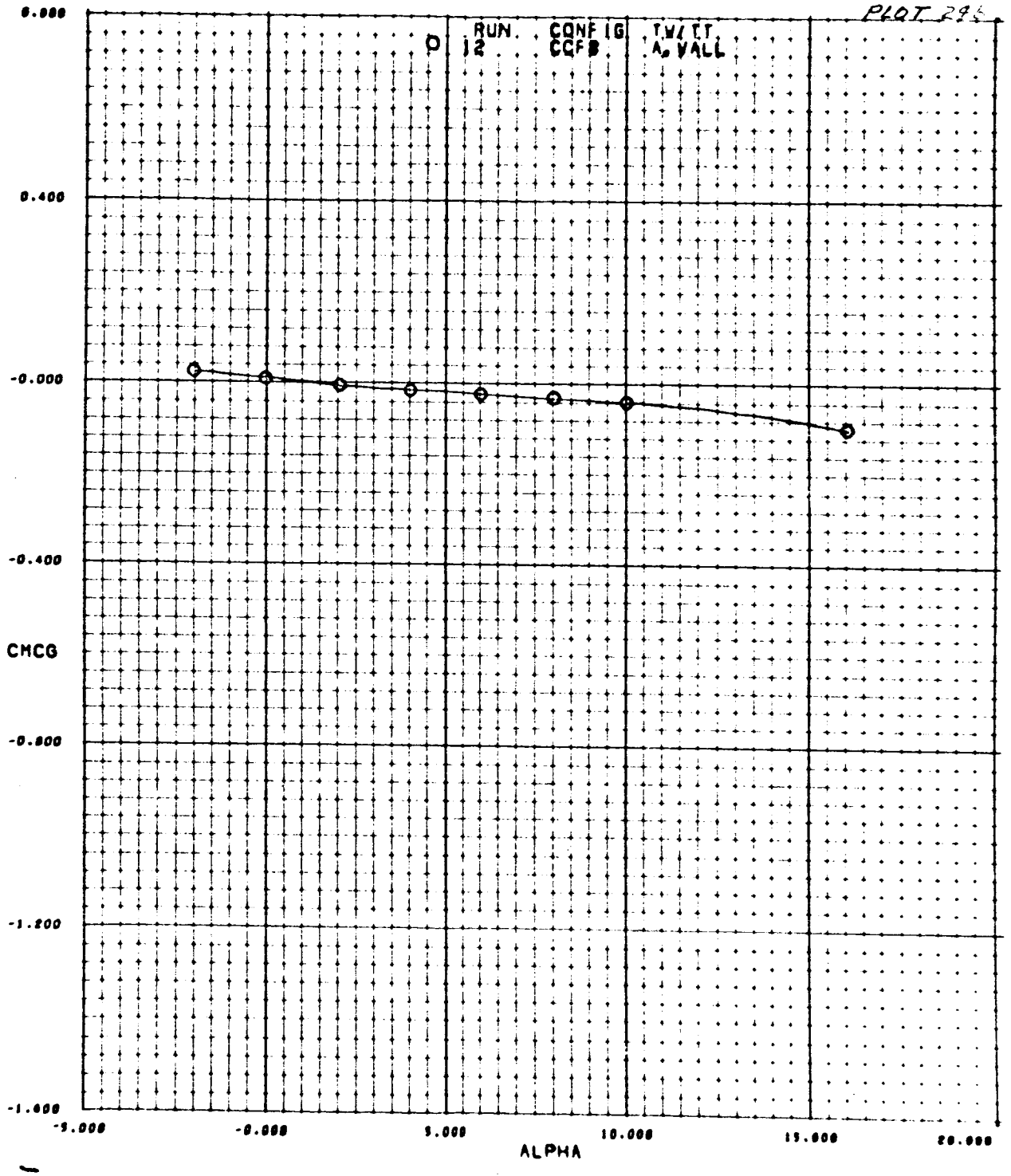

O TV/TT 0.30 CONFIG CCF 8A RE/IN 0.12
0.300
0.250
0.200
0.150
CD
0.100
0.050
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

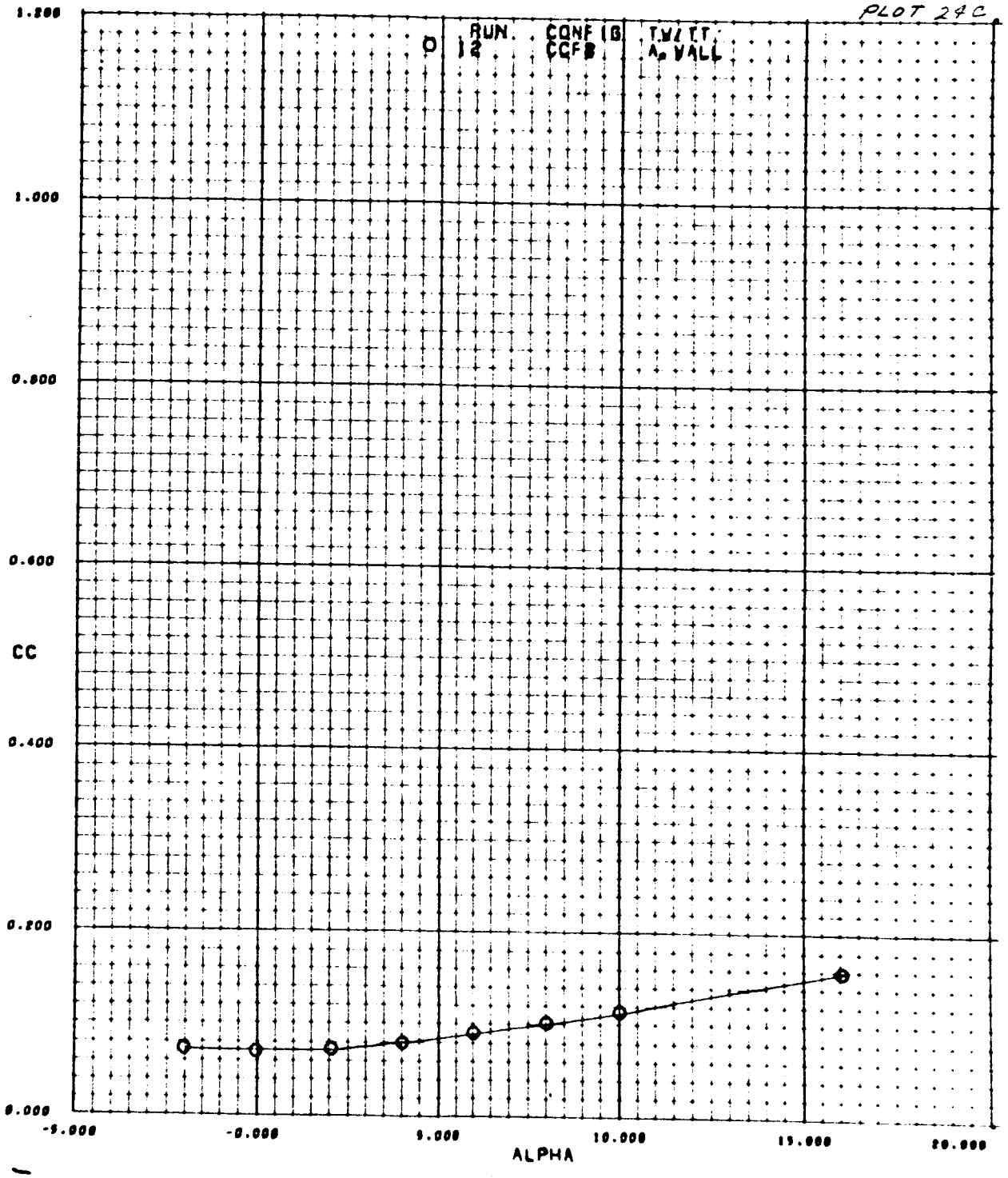
115

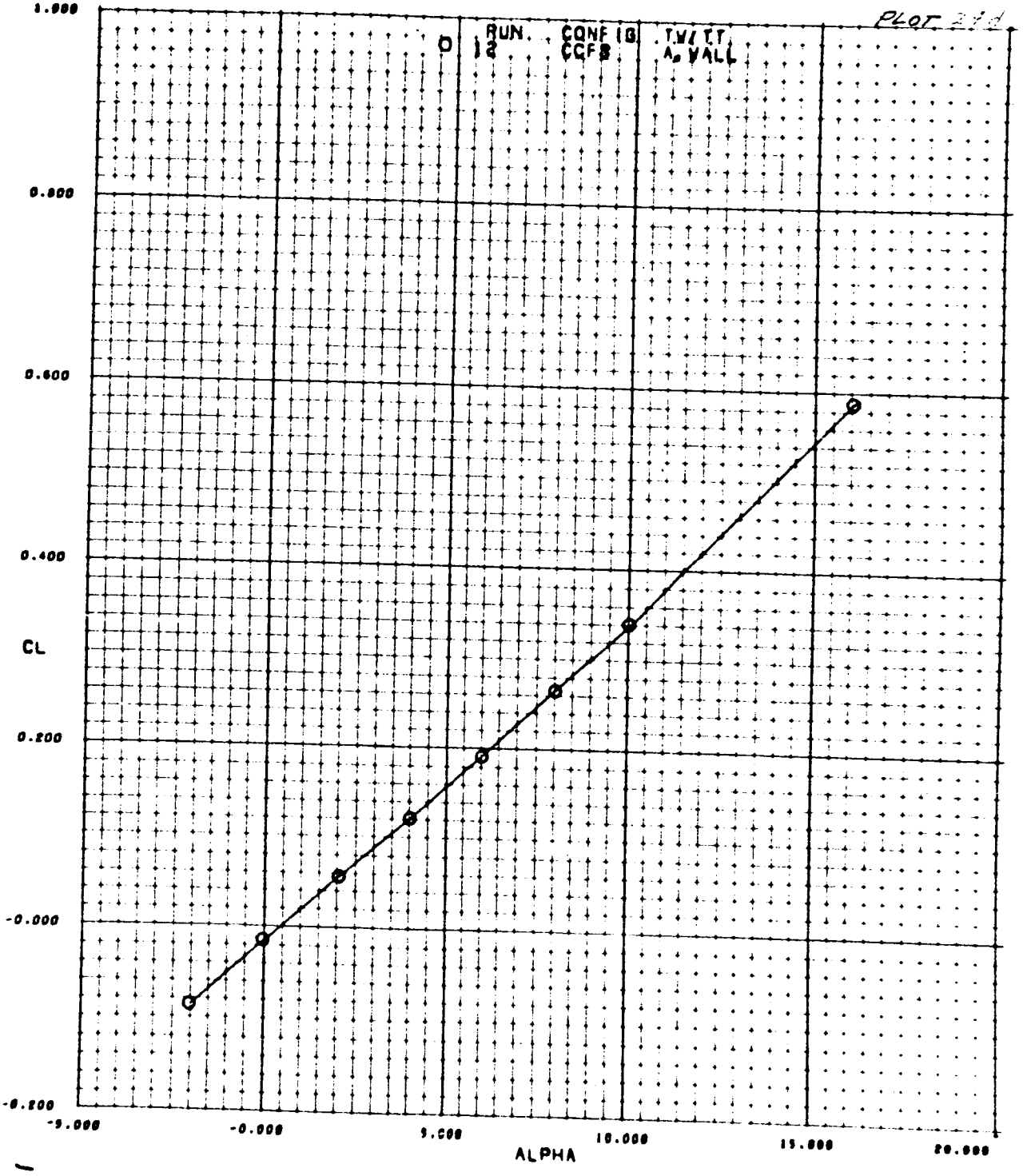
PLOT 242


RUN. CONFIG
12 CGFB
TW/TT
A. WALL
1.000
0.800
0.600
0.400
CN
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

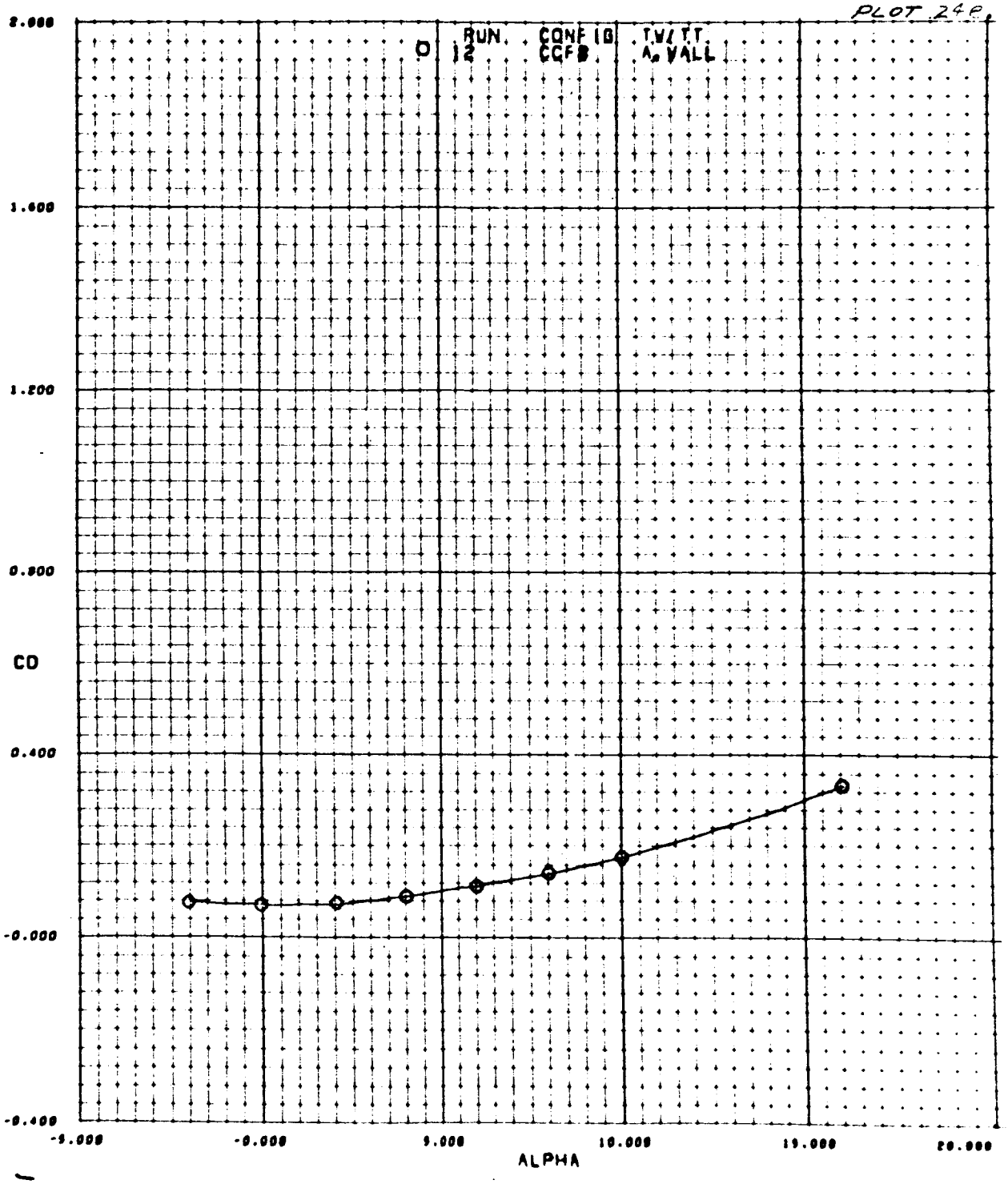
116


PLOT 295
P
RUN. 12
CONFIG CCFB
T.W/ F.T.
A. WALL
0.800
0.400
-0.000
-0.400
-0.800
-1.200
-1.600
CMCG
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA


PLOT 29C
O RUN. CONFIG TW/TT
12 CCFB A, WALL
1.200
1.000
0.800
0.600
CC
0.400
0.200
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

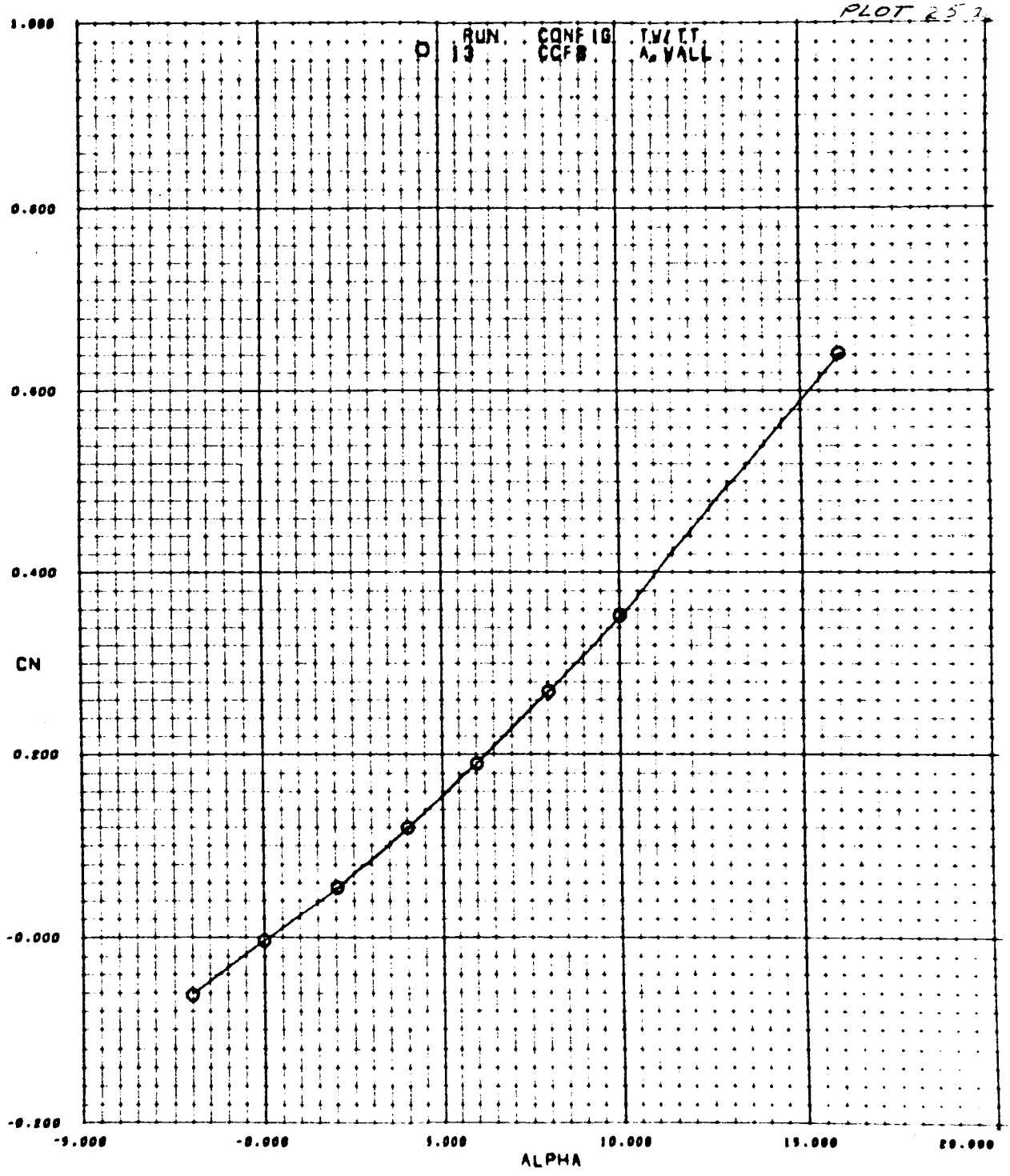

PLOT 21d
O RUN. CONFIG TWIST
12 CCFB A. WALL
1.000
0.800
0.600
0.400
CL
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 24P


RUN
12
CONFIG
CCFB
T.W/ T.T
A. WALL
2.000
1.600
1.200
0.800
CD
0.400
-0.000
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

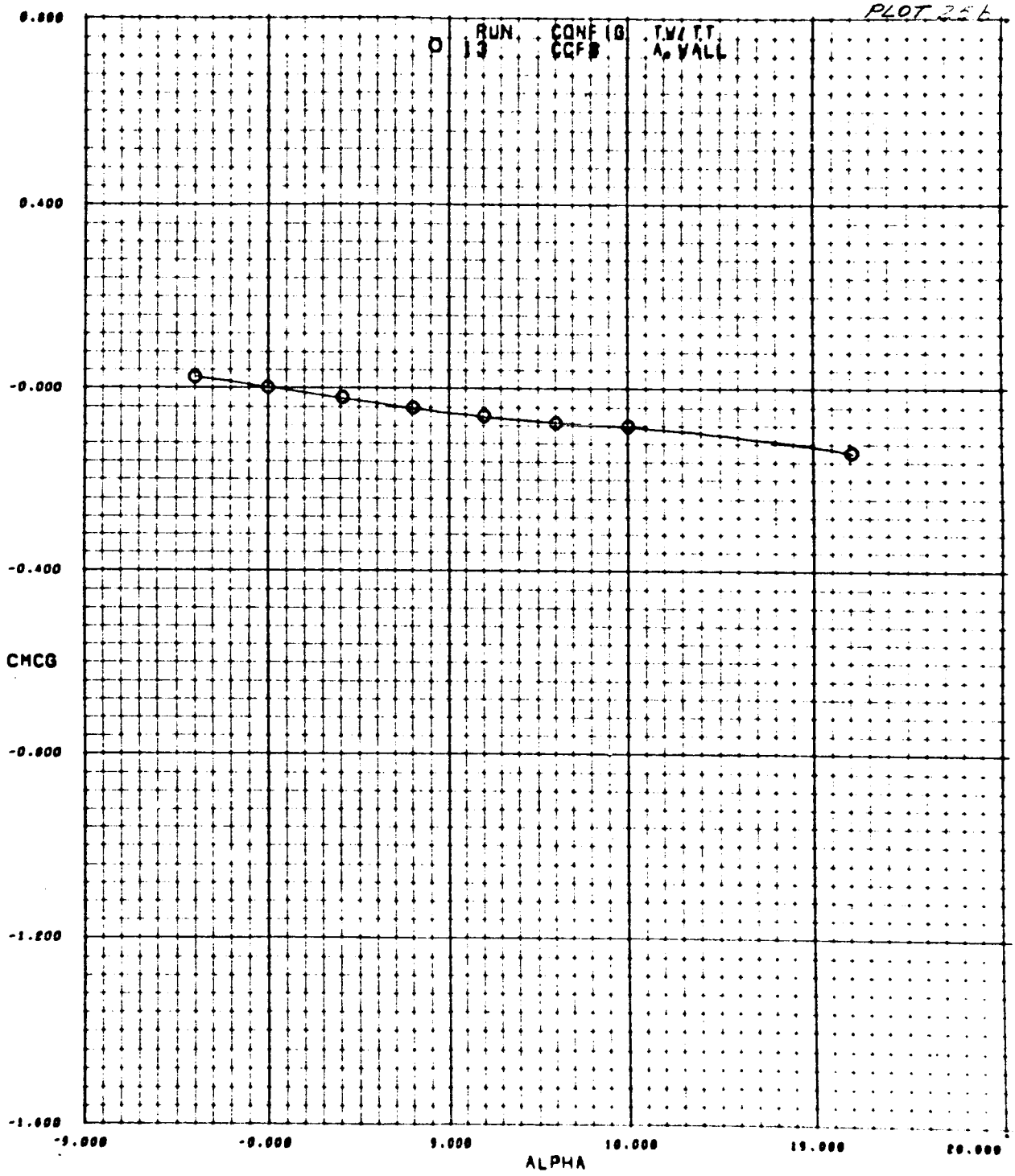
120

PLOT 25.1

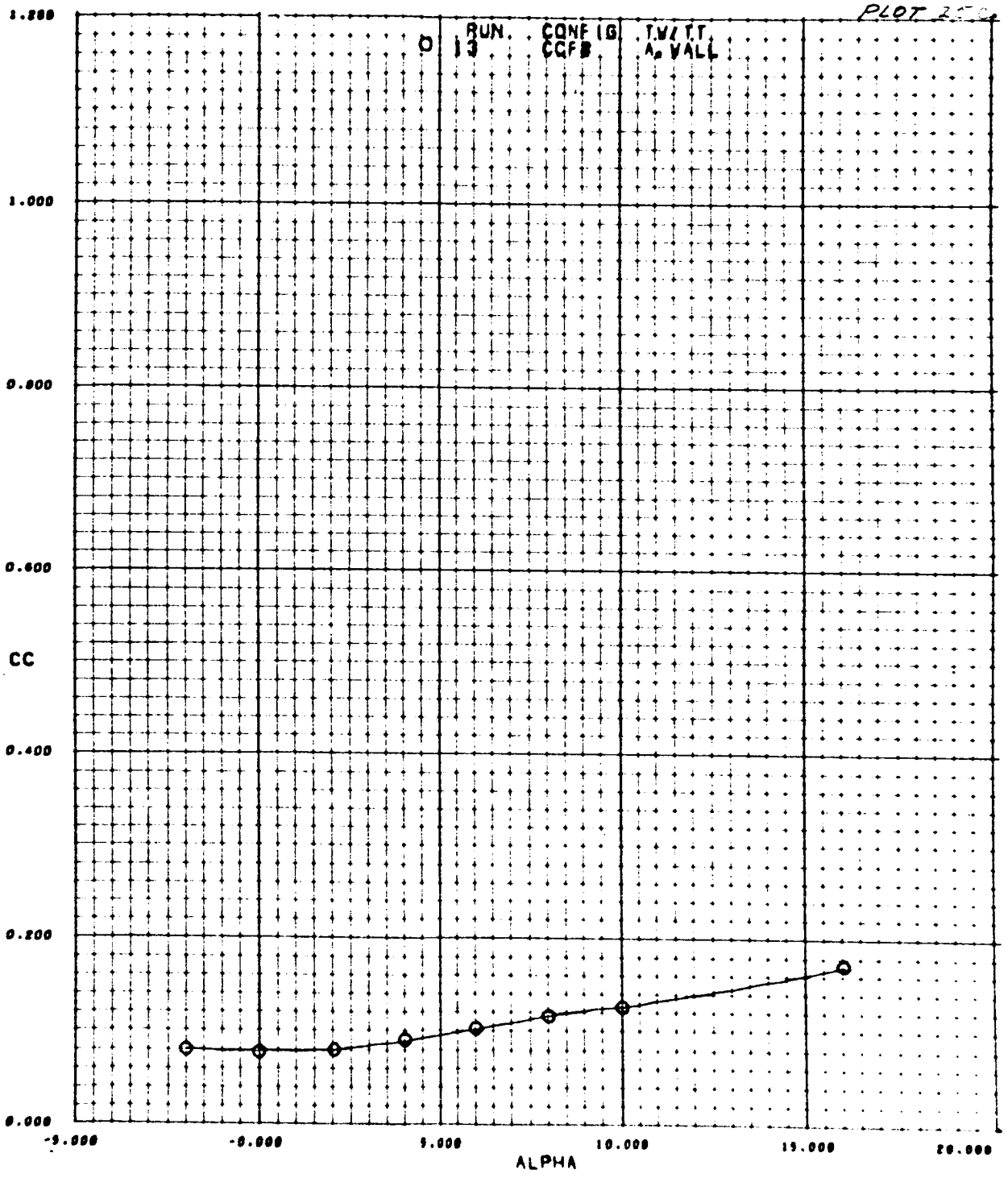

RUN
13
CONFIG
CCFB
TUNNEL
A, WALL
1.000
0.800
0.600
0.400
CN
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

121

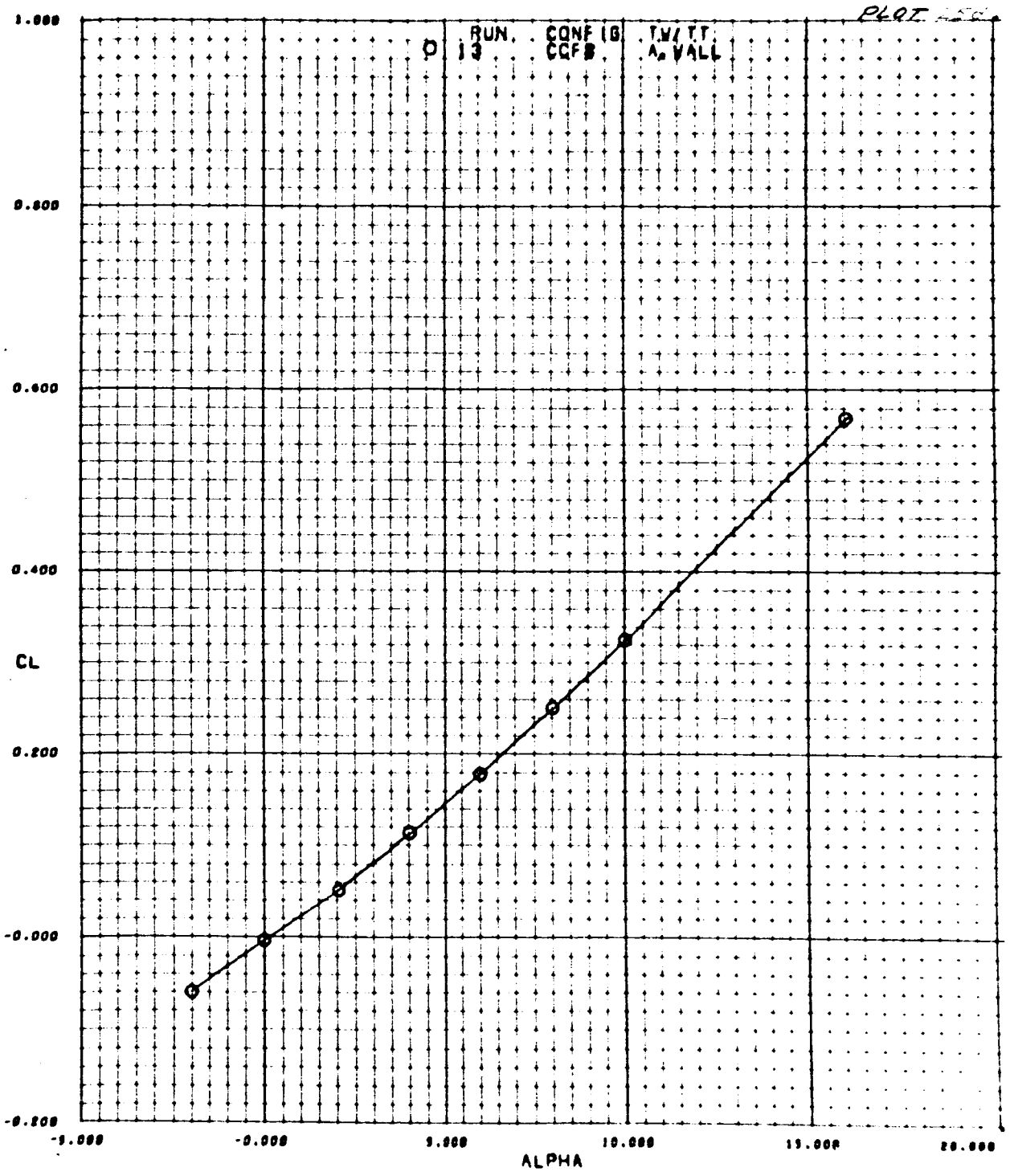
PLOT 25 b

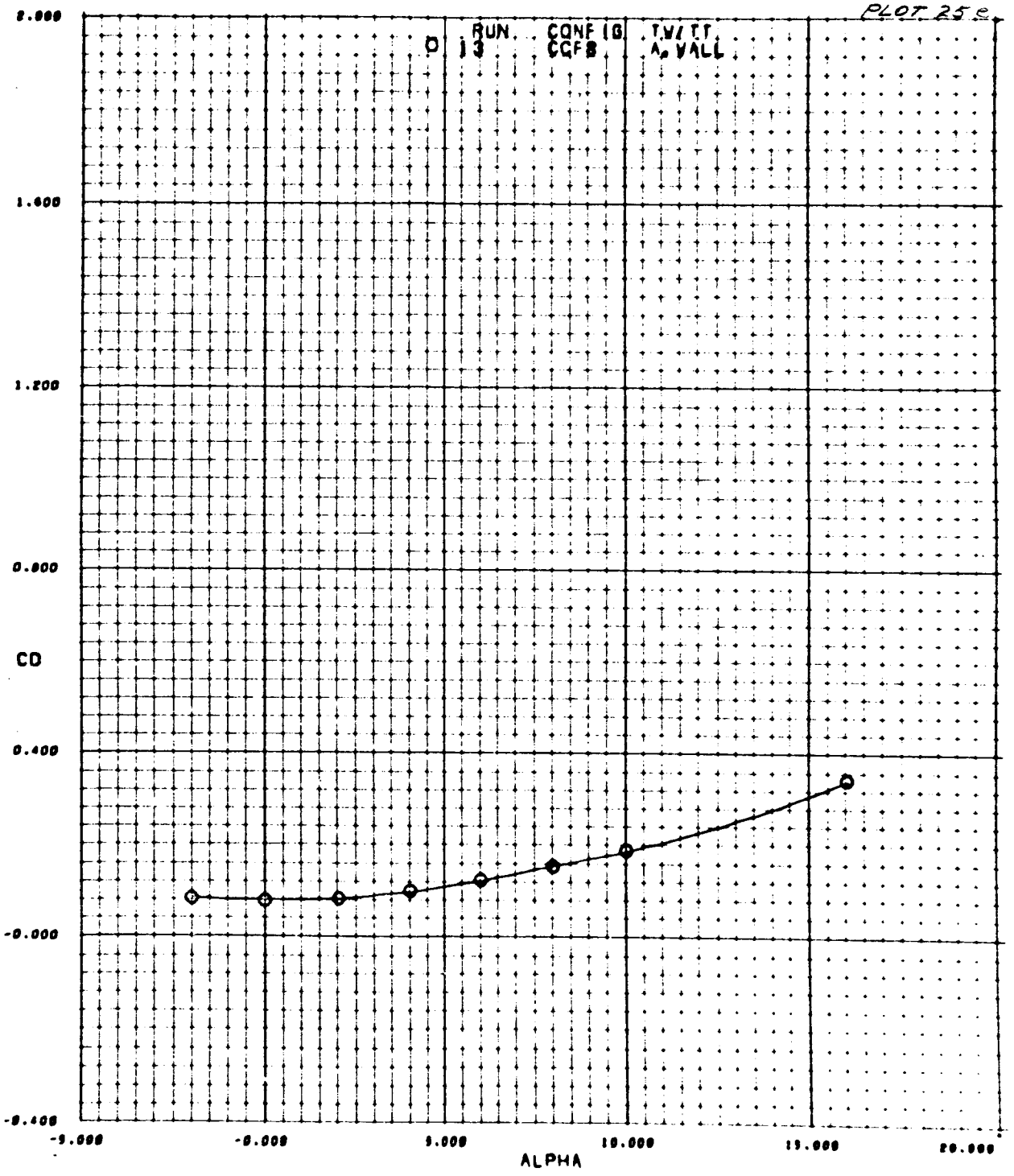

RUN
CONFIG
TWT
A, WALL
0.800
0.400
-0.000
-0.400
CMCG
-0.800
-1.200
-1.600
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

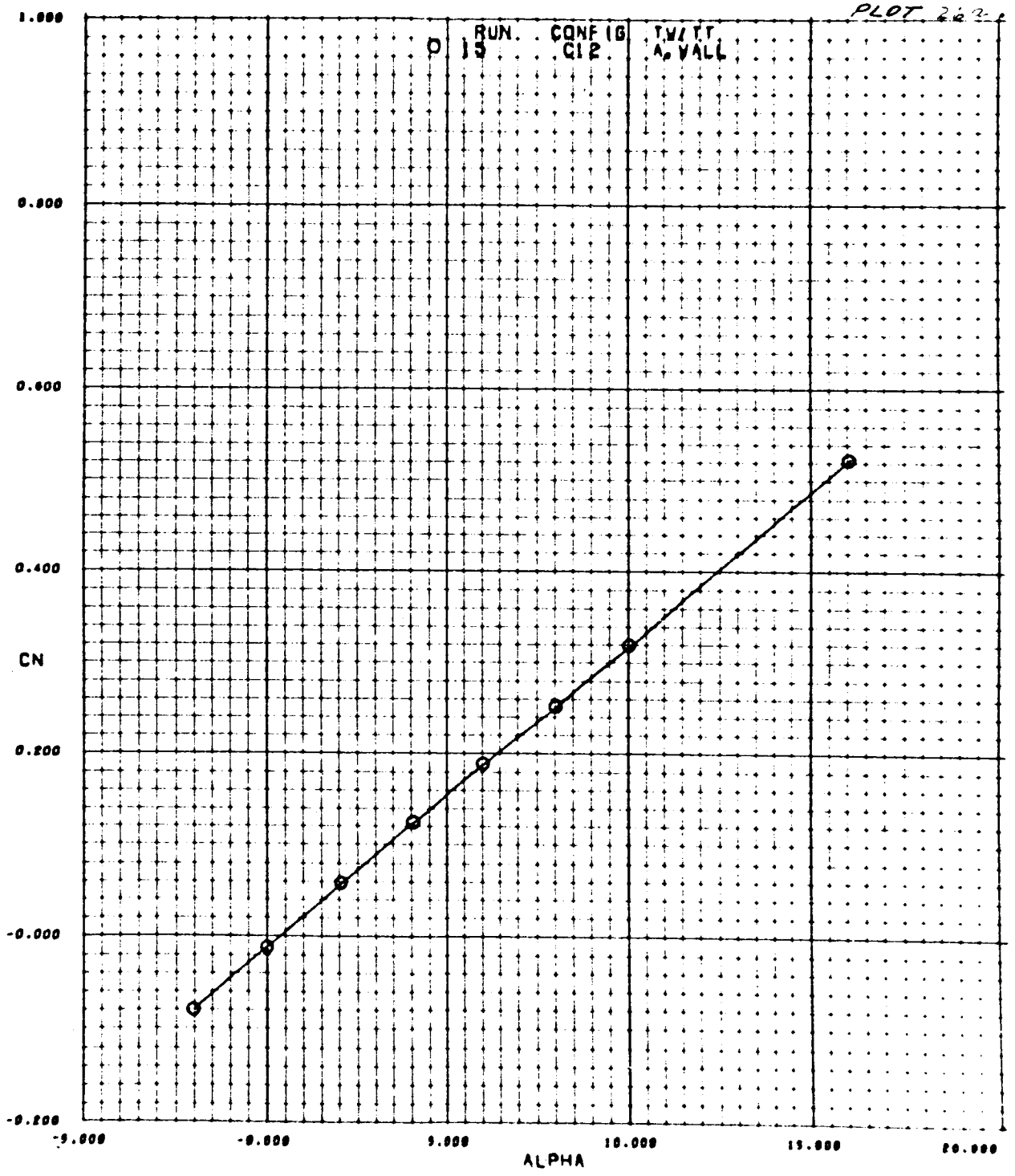
(22


PLOT 25
O RUN. CONFIG T.W.T.T.
13 CGFB A. WALL
1.200
1.000
0.800
0.600
CC
0.400
0.200
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

123

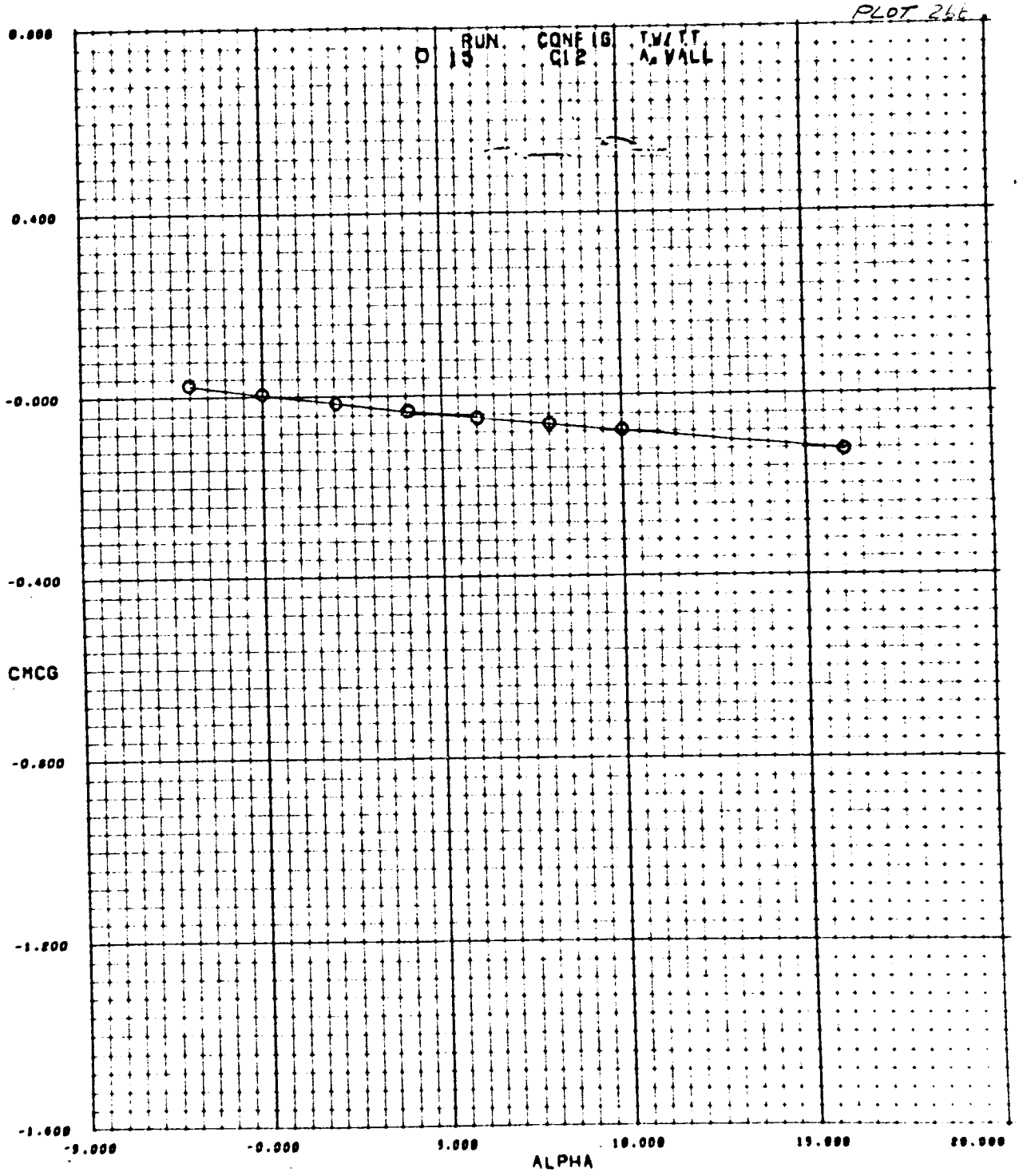

PLOT
O RUN. CONFIG T.W/ T.T.
13 CCFB A. WALL
1.000
0.800
0.600
0.400
CL
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA


PLOT 25 e
RUN
CONFIG
TWT
CGFB
A, WALL
2.000
1.600
1.200
0.800
CD
0.400
-0.000
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

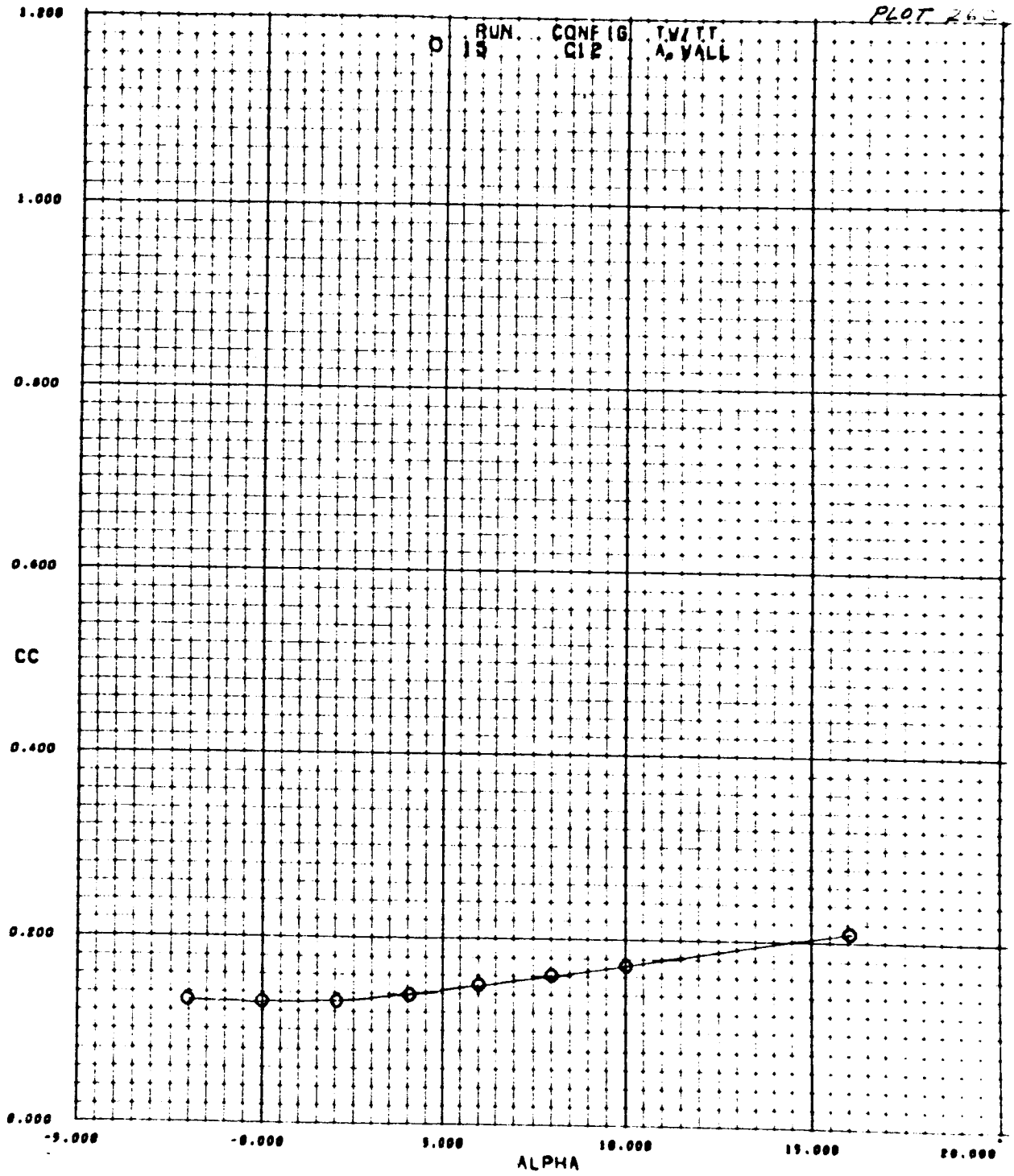

PLOT 223
RUN 15
CONFIG C12
TW/TT A, WALL
1.000
0.800
0.600
0.400
CN
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

126

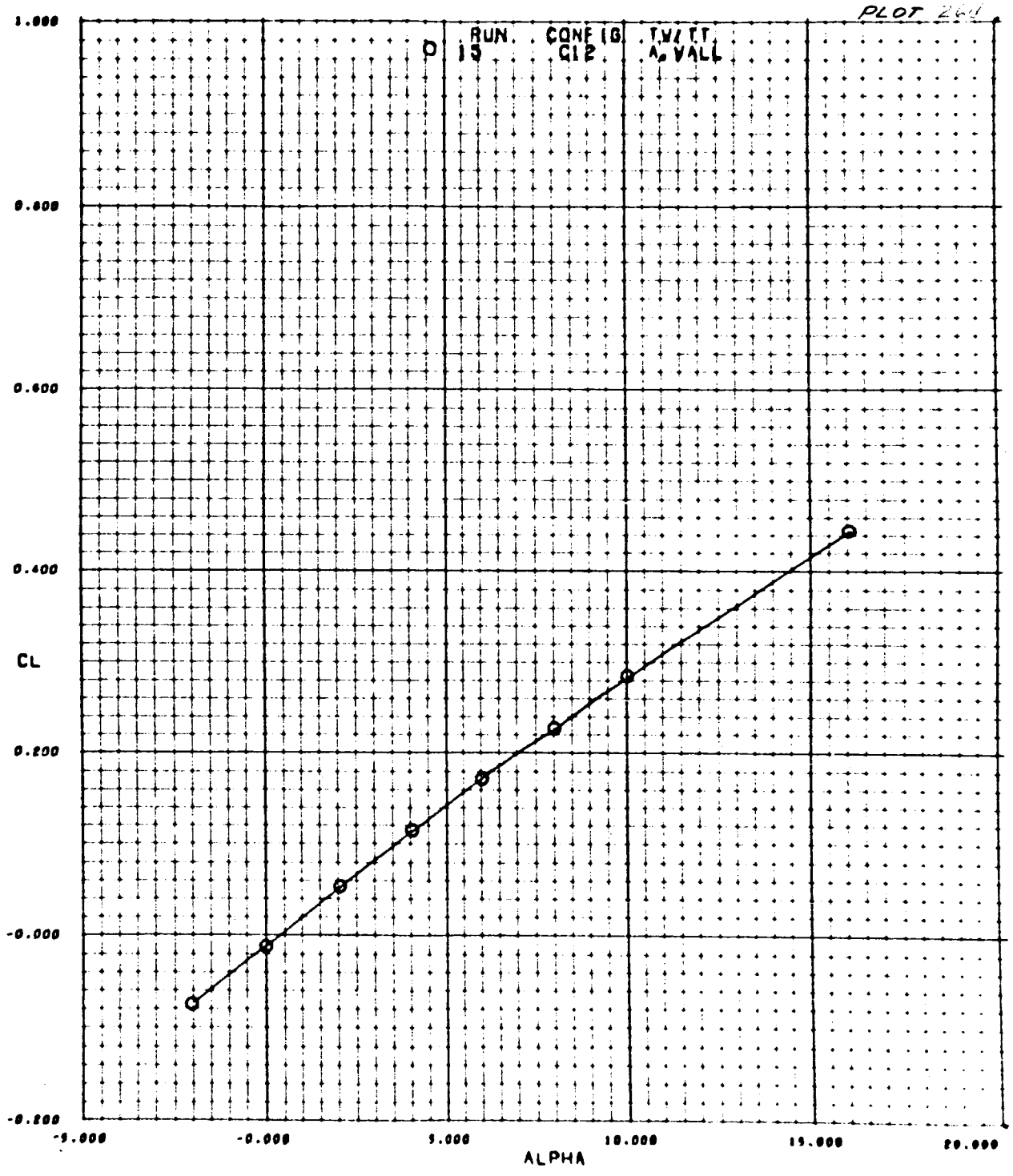
PLOT 266


RUN. CONFIG TW/TT
D 15 C12 A. WALL
0.800
0.400
-0.000
-0.400
CMCG
-0.800
-1.200
-1.600
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

127

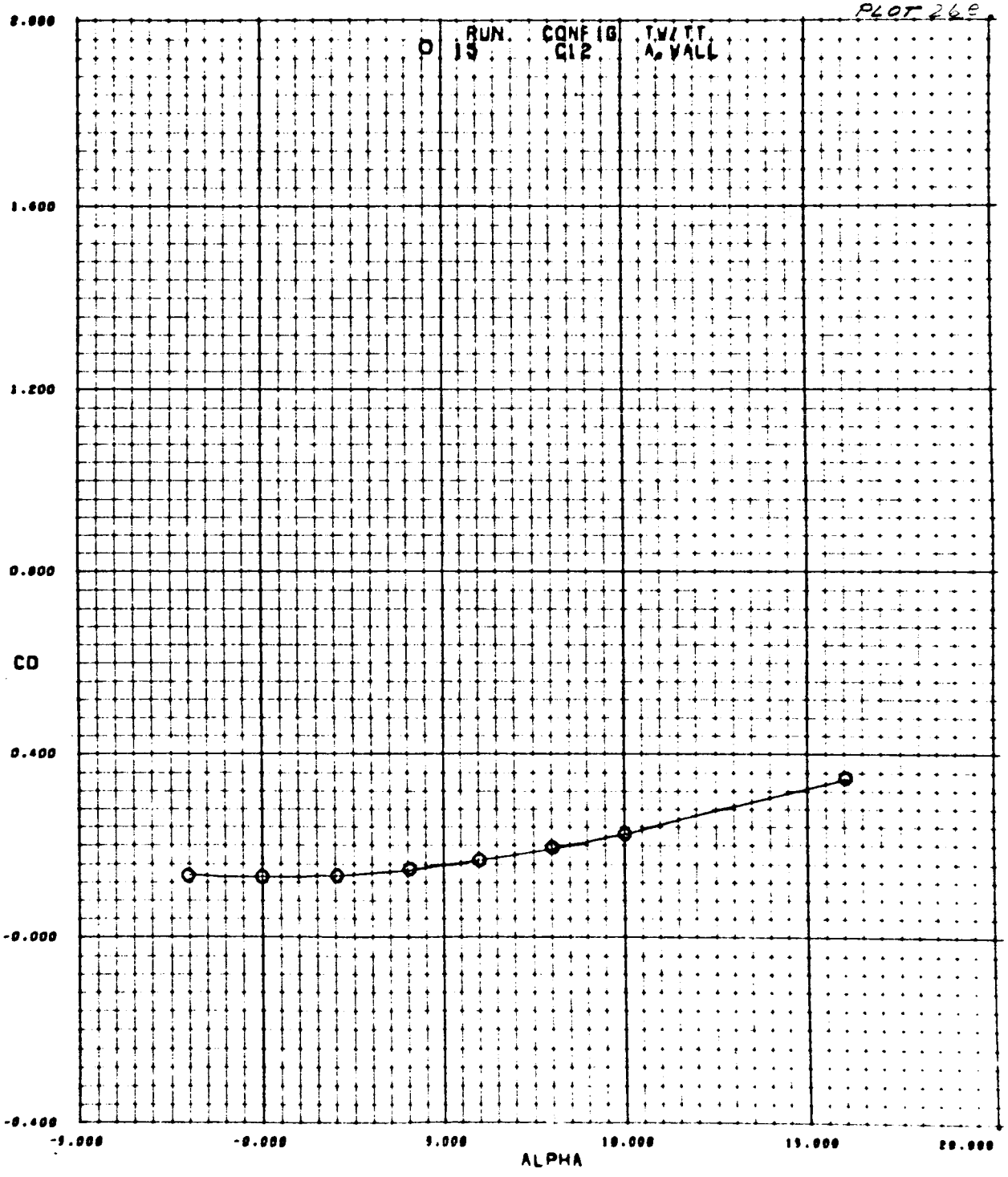

PLOT 26
O RUN 13 CONFIG C12 T.W/T.T. A, WALL
1.200
1.000
0.800
0.600
CC
0.400
0.200
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

123


PLOT 244
RUN. CONFIG TW/TT
15 C12 A. WALL
1.000
0.800
0.600
0.400
CL
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

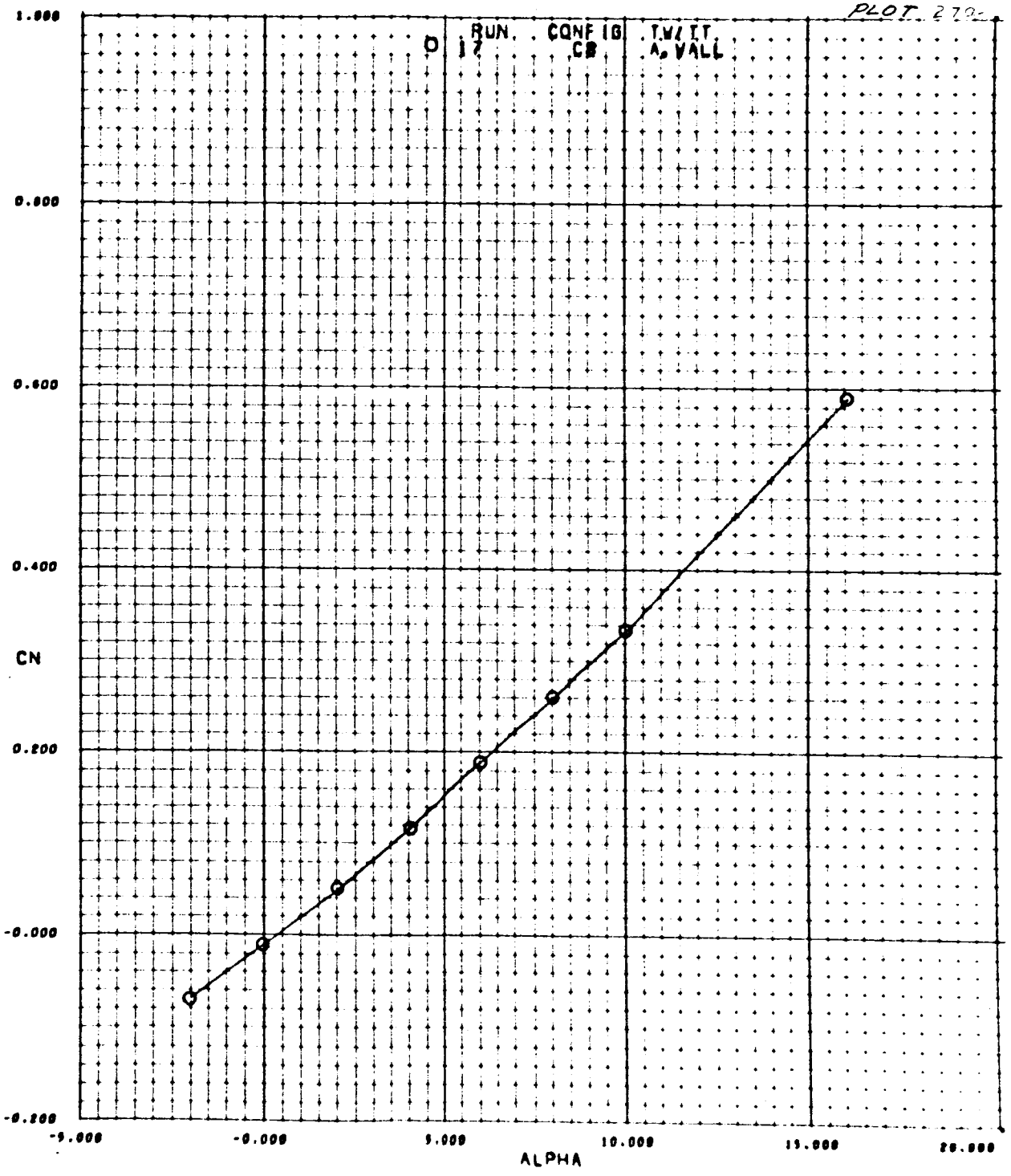
129

PLOT 26e


RUN. CONFIG T.W/ T.T
15 C12 A. WALL
2.000
1.600
1.200
0.800
CD
0.400
-0.000
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

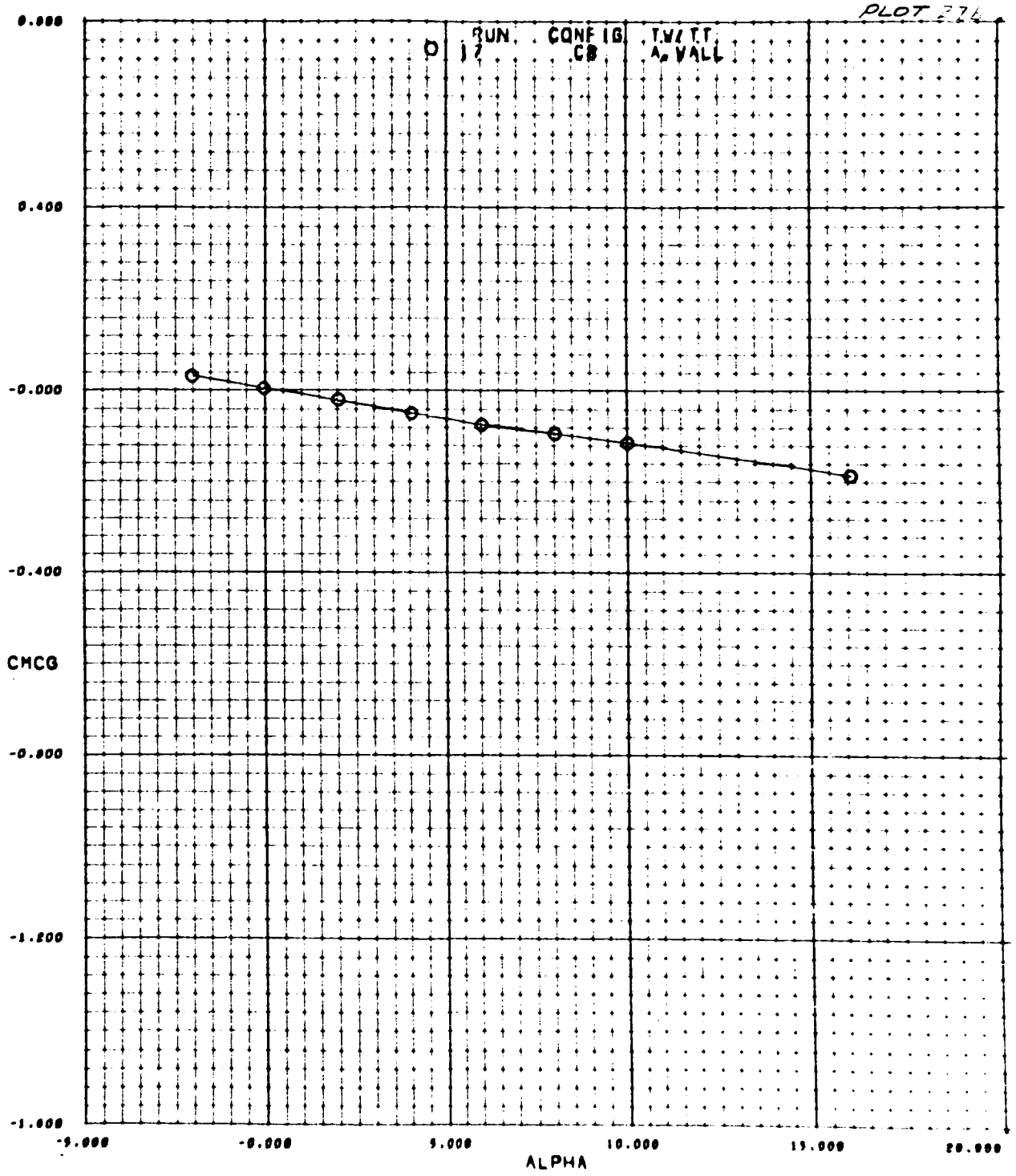
120

PLOT 270


RUN. CONFIG. TW/TT
17 CB A. WALL
1.000
0.800
0.600
0.400
CN
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

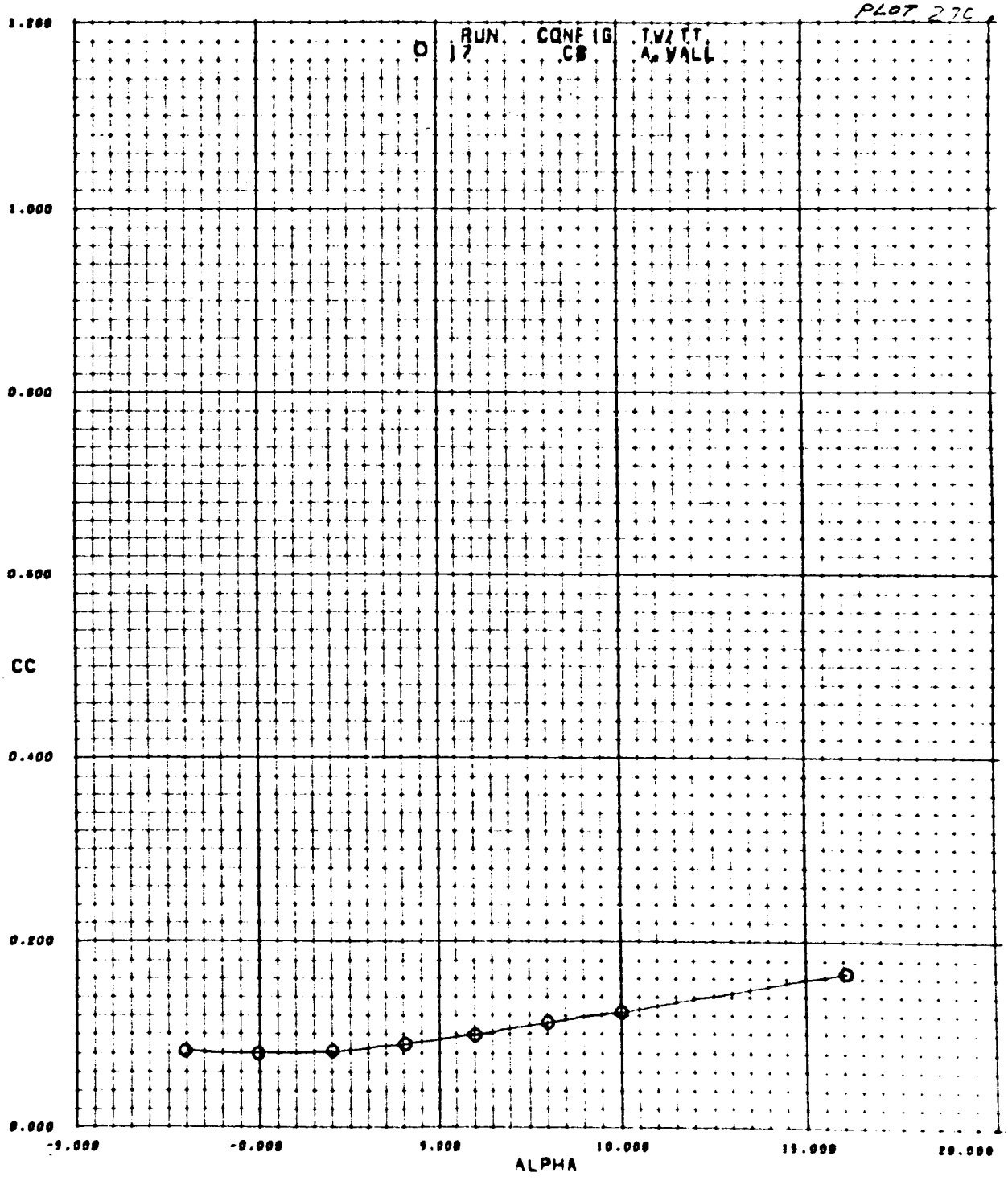
121

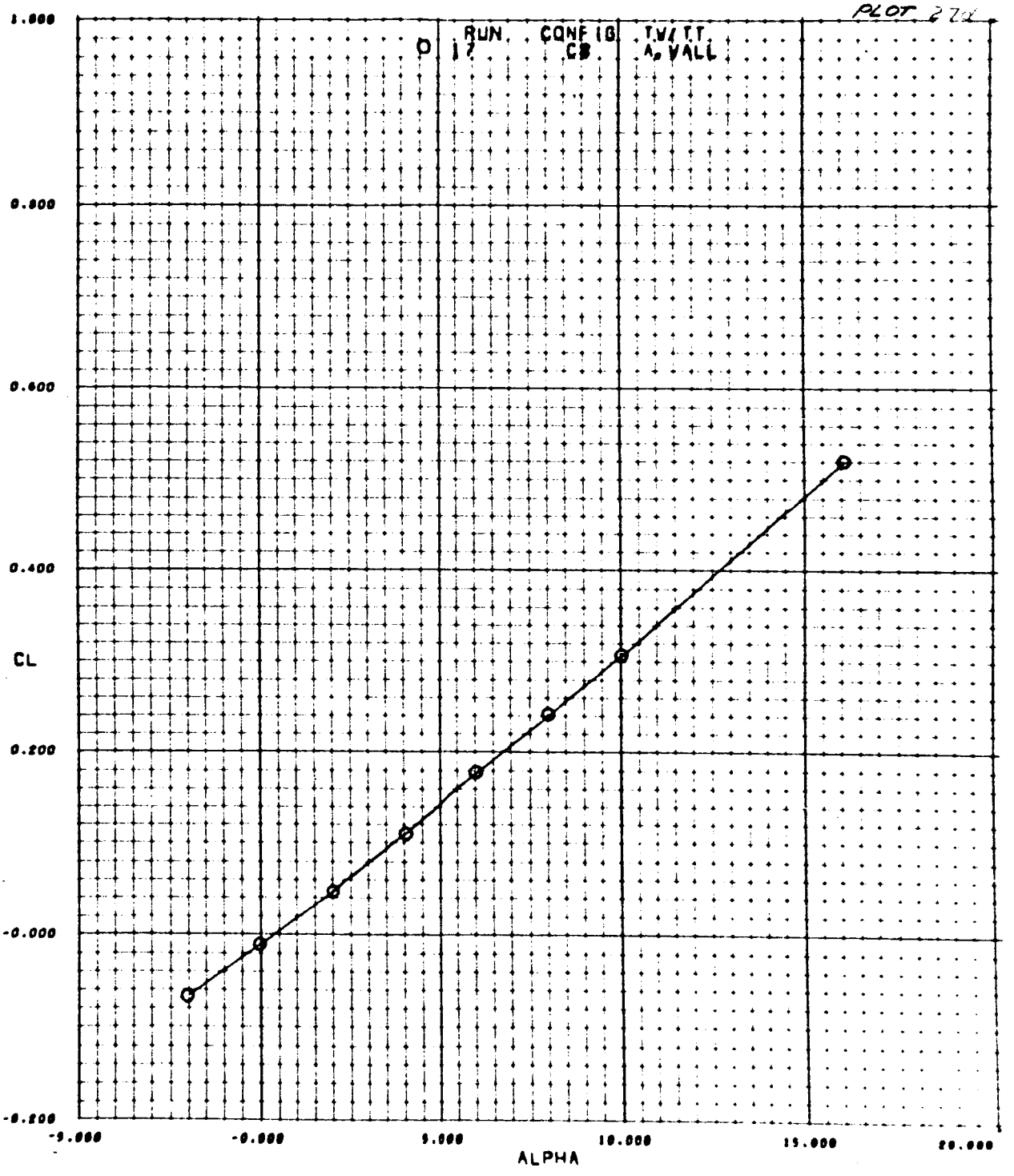
PLOT 224


RUN. CONFIG TWT T.T.
17 CB A. WALL
0.800
0.400
-0.000
-0.400
-0.800
-1.200
-1.600
CMCG
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

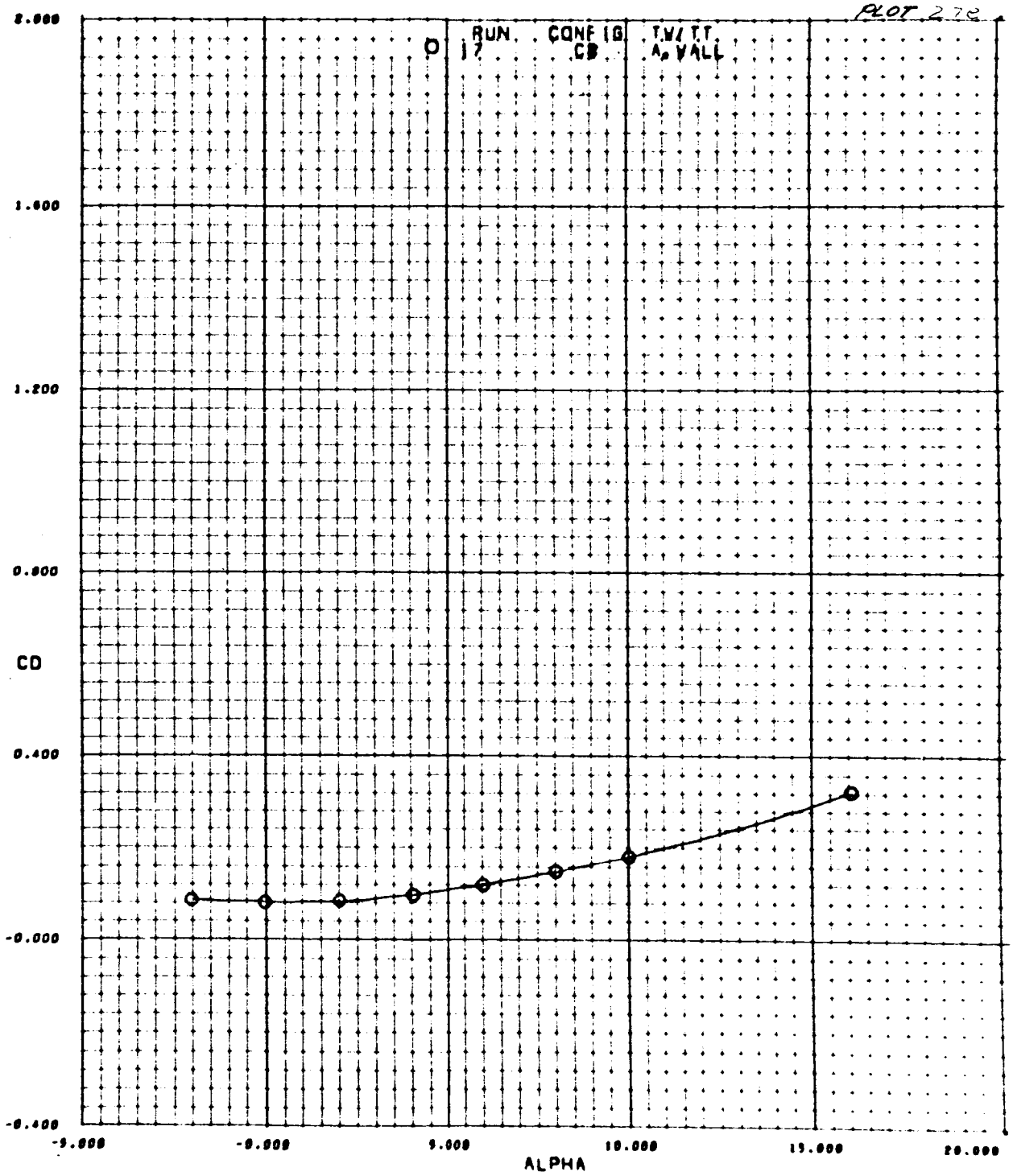
132

PLOT 270

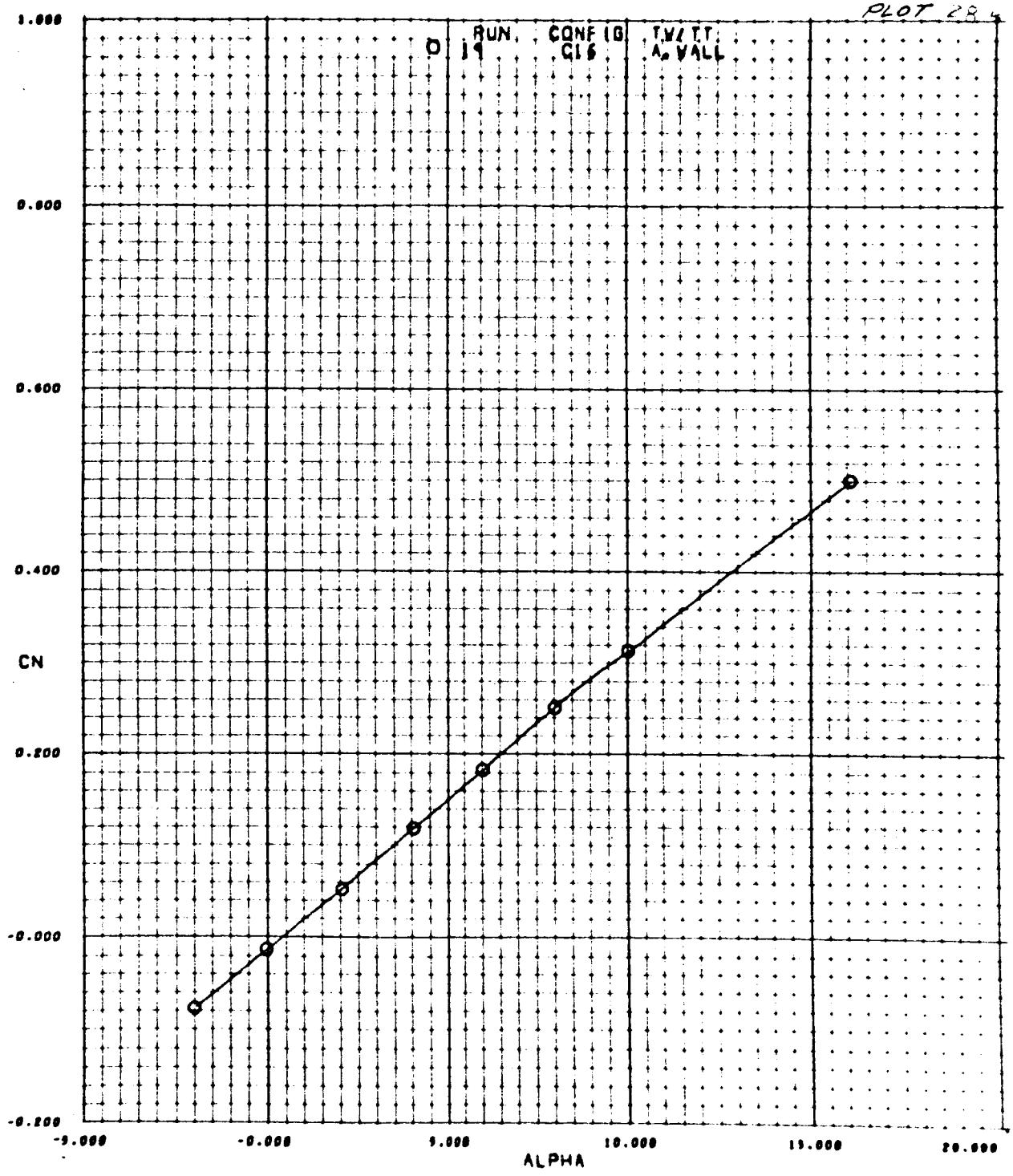

D
RUN 17
CONFIG CB
T.V./T.T. A. WALL
1.200
1.000
0.800
0.600
CC
0.400
0.200
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

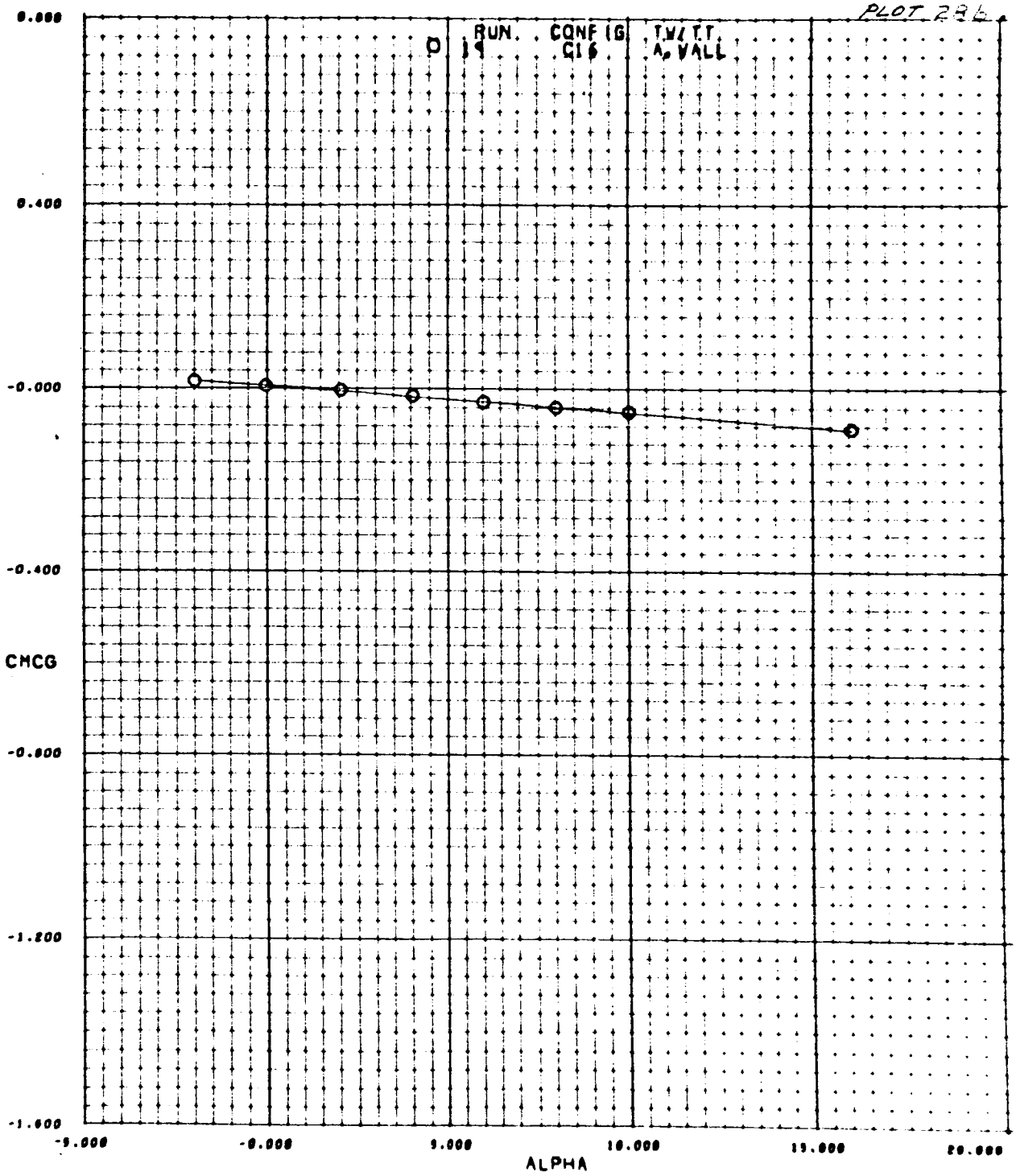

PLOT 272
D
RUN
CONFIG
T.W/ T.T.
A, WALL
1.000
0.800
0.600
0.400
0.200
-0.000
-0.200
CL
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 272


RUN 17
CONFIG CB
TWT T.T.
A, WALL
2.000
1.600
1.200
0.800
CD
0.400
-0.000
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

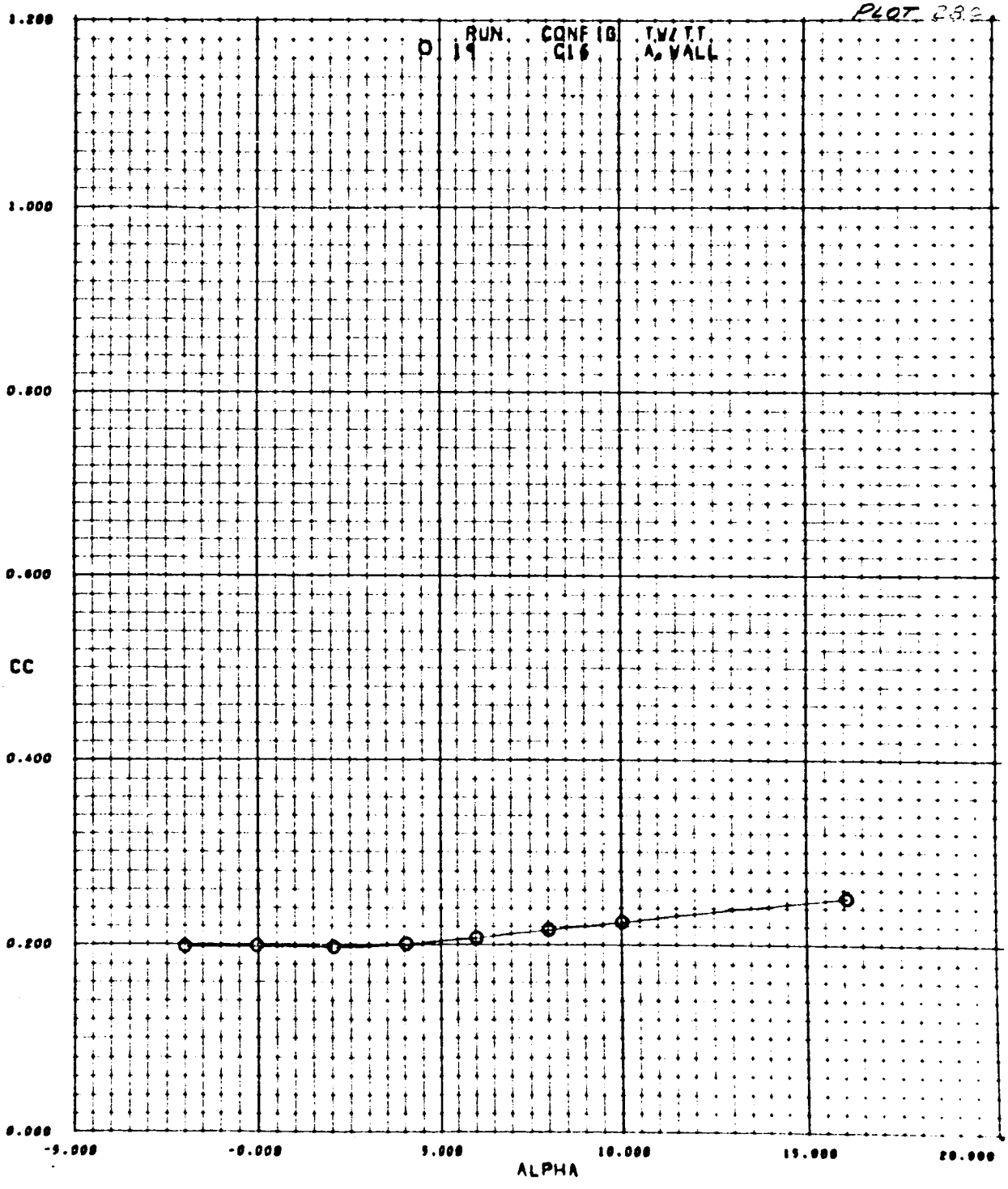
PLOT 28


RUN, CONFIG, TWT, TT
19 C16 A, WALL
1.000
0.800
0.600
0.400
CN
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

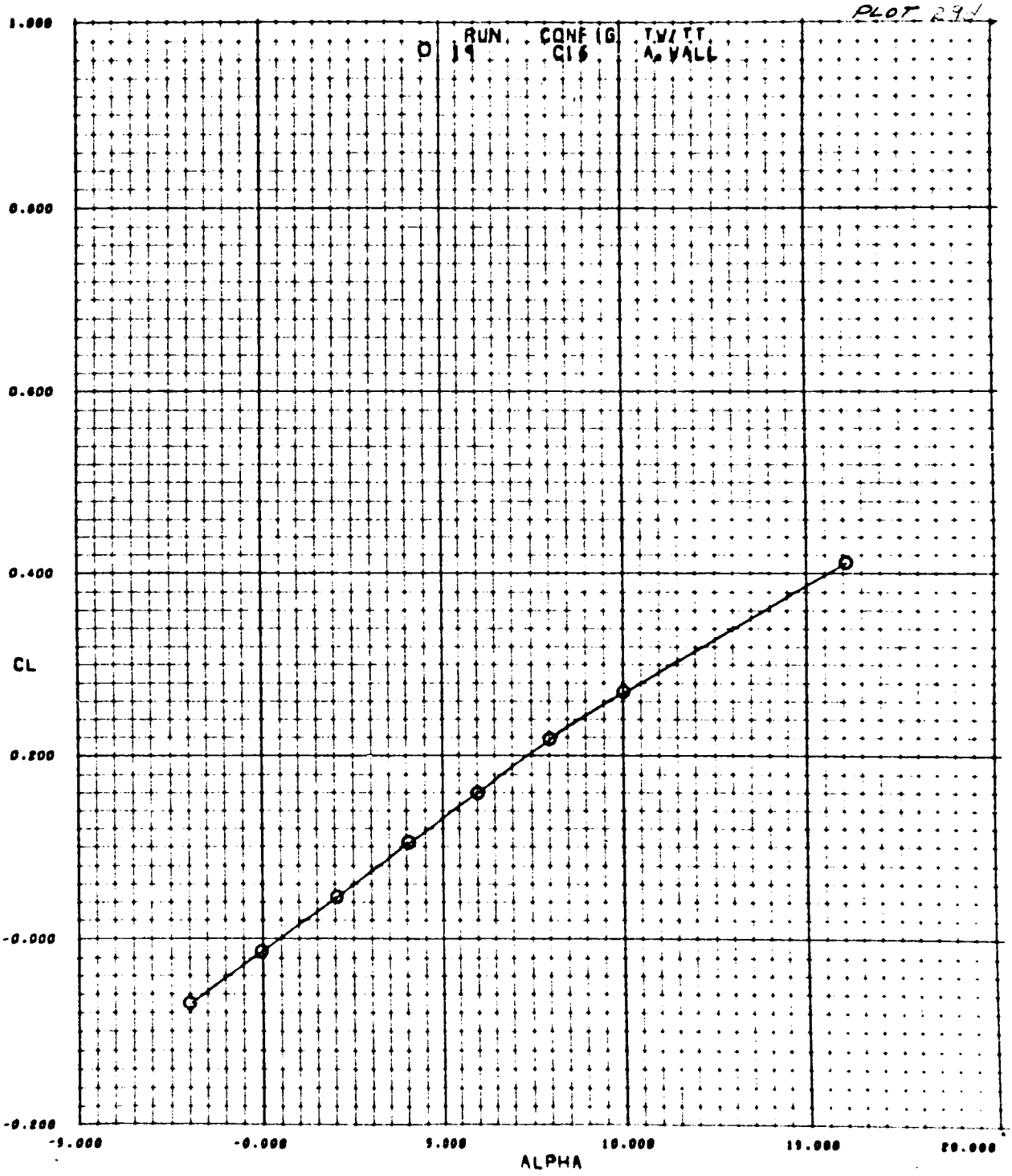

PLOT 286
RUN. CONFIG TW/TT
14 C16 A. WALL
0.800
0.400
-0.000
-0.400
-0.800
-1.200
-1.600
CMCG
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

137

PLOT 232

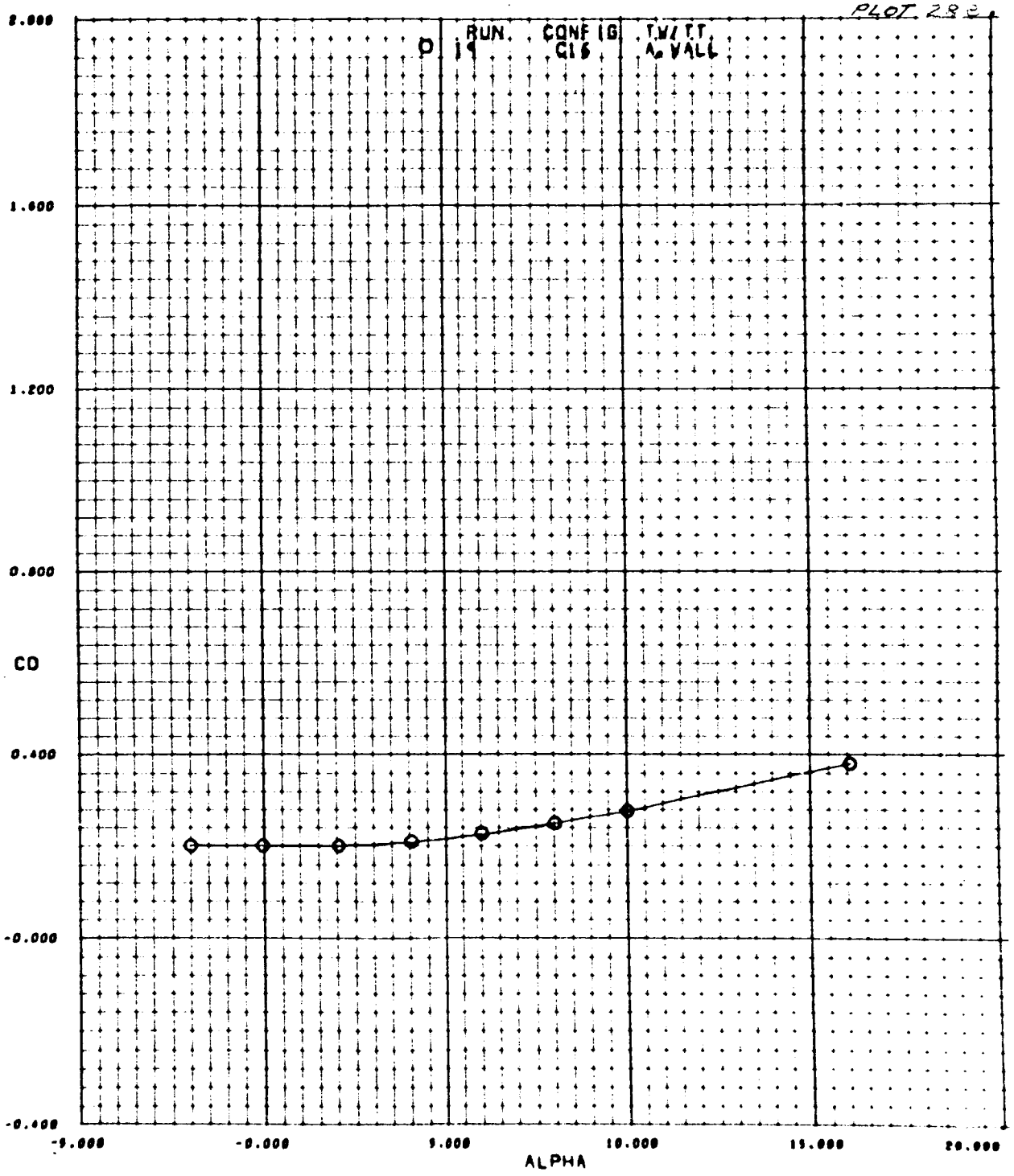

RUN. CONFIG
19 C16
TWT T.T.
A. WALL
1.200
1.000
0.800
0.600
CC
0.400
0.200
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

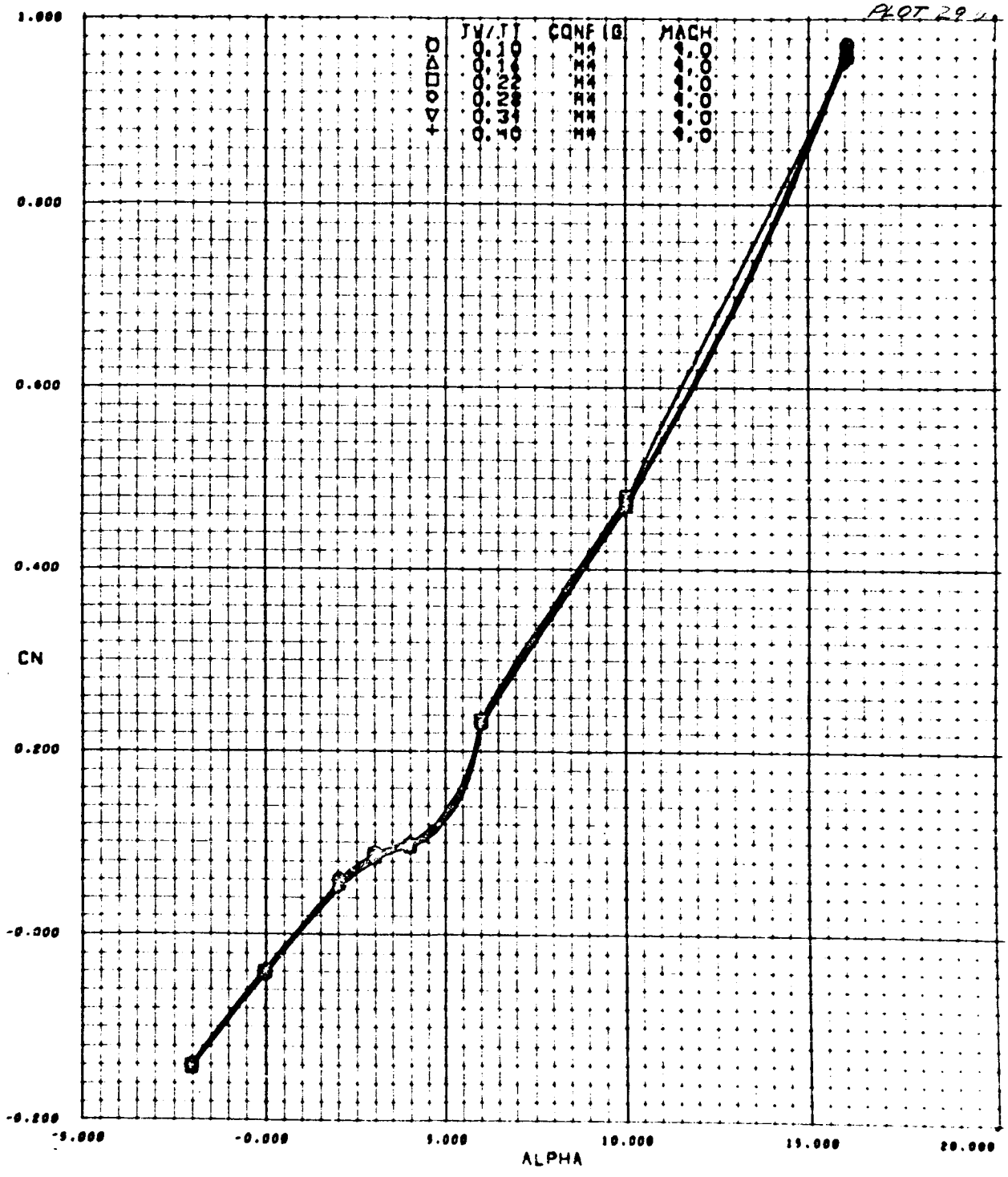
PLOT 29


RUN
19
CONFIG
C16
TW/TT
A, WALL
1.000
0.800
0.600
0.400
CL
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

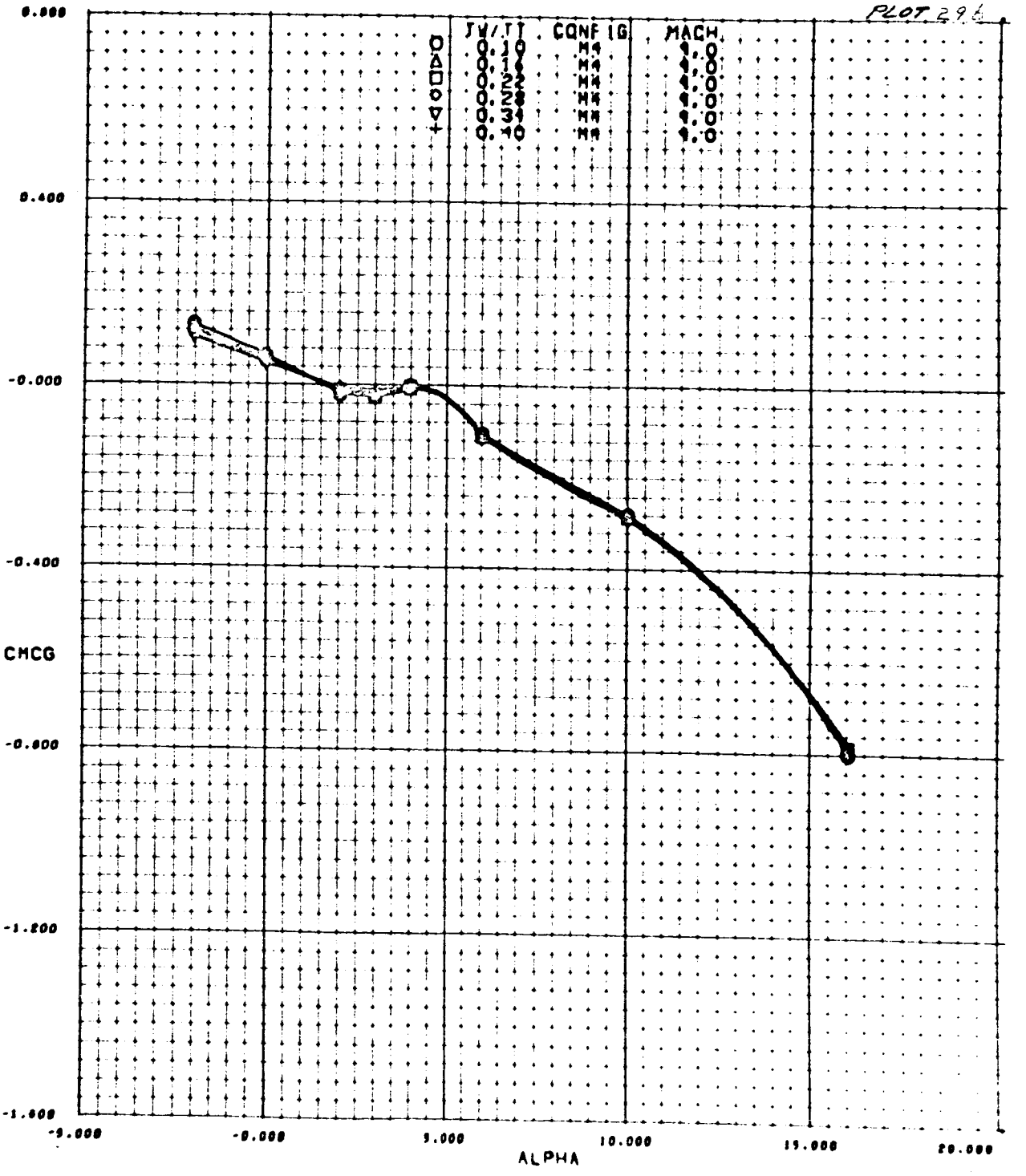
19

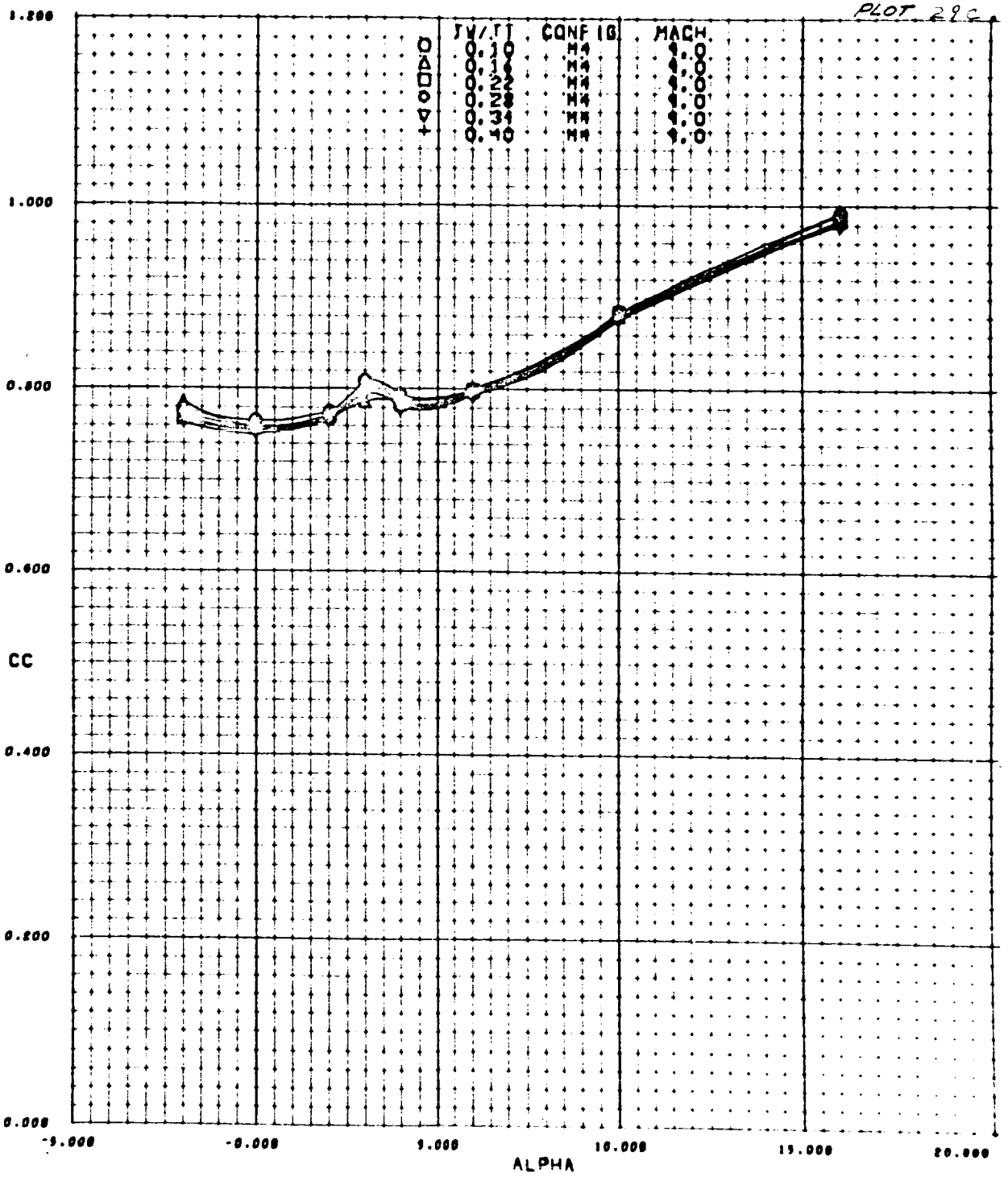
PLOT 28


RUN
CONFIG
C16
T.W/ T.T.
A. WALL
2.000
1.600
1.200
0.800
CD
0.400
-0.000
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

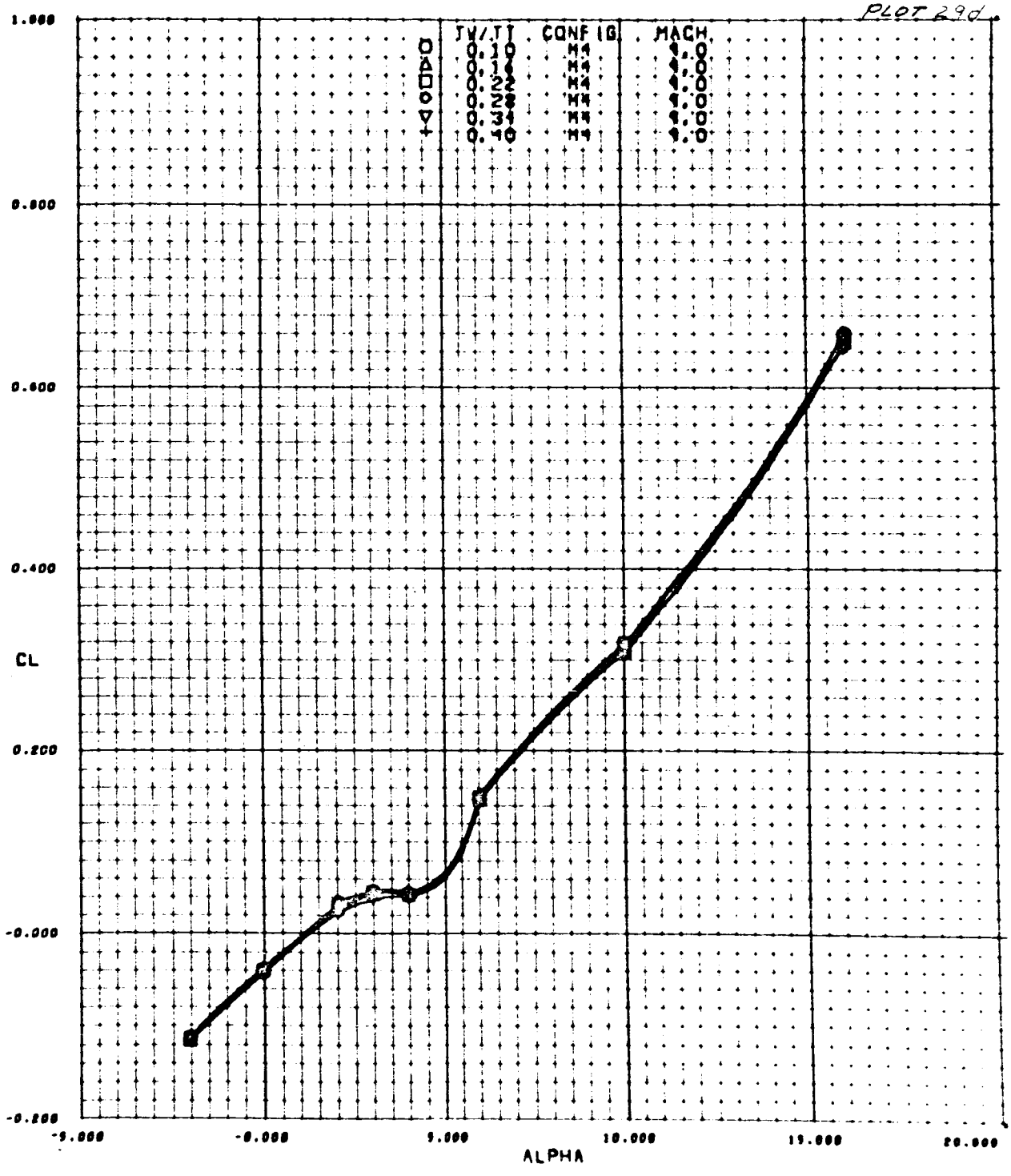

PLOT 29
1.000
0.800
0.600
0.400
CN
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA
CONFIG
MACH
1.0000
1.0000
1.0000
1.000

/2/

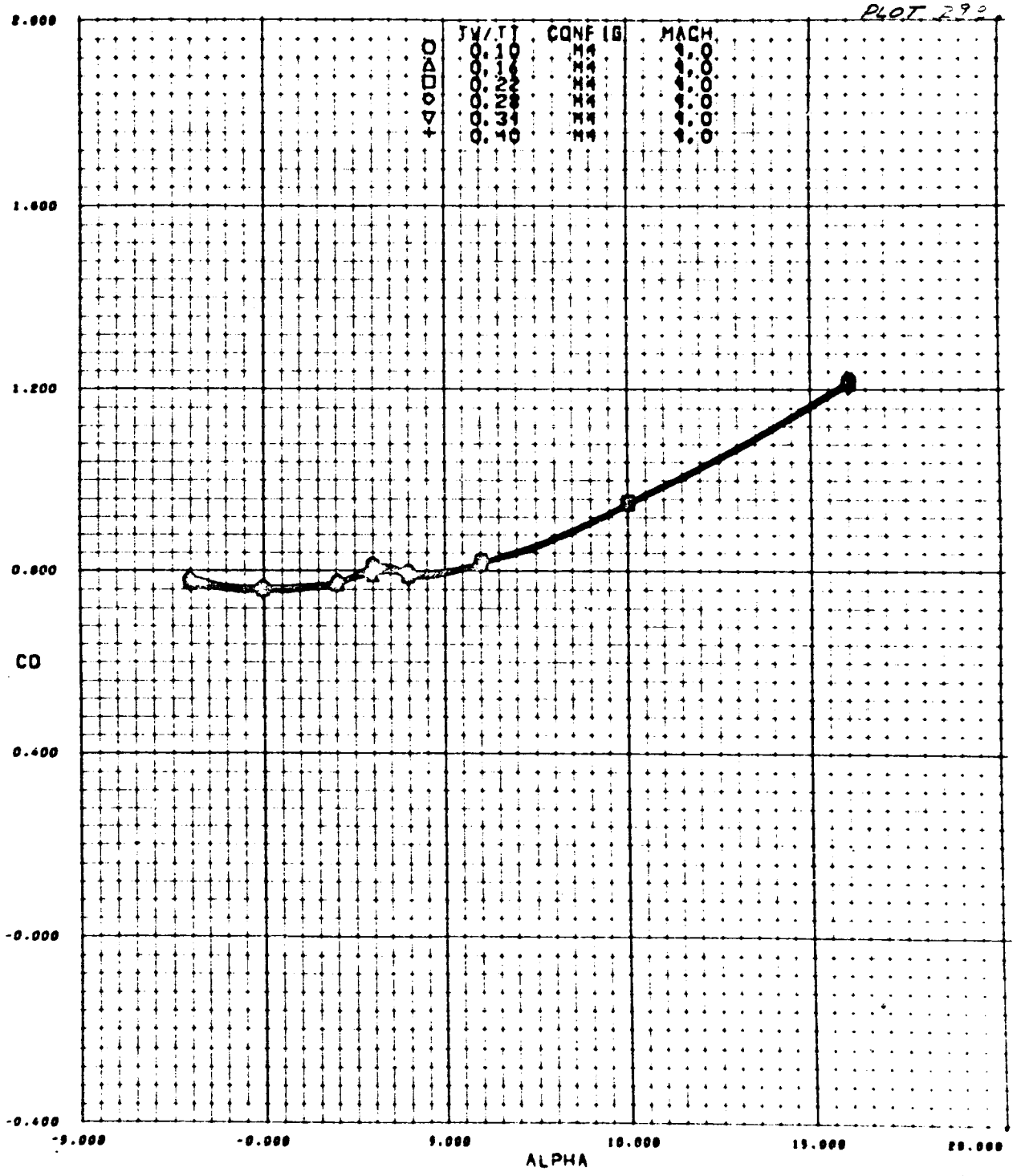

PLOT 296
DATA
Tw/Tt CONFIG MACH
0.10 M4 4.0
0.16 M4 4.0
0.22 M4 4.0
0.28 M4 4.0
0.34 M4 4.0
0.40 M4 4.0
0.800
0.400
-0.000
-0.400
-0.800
-1.200
-1.600
CMCG
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA


PLOT 29c
ODD 4
RW/RT CONFIG MACH
0.100 M1 0.000
0.150 M1 0.000
0.200 M1 0.000
0.310 M1 0.000
0.410 M1 0.000
1.200
1.000
0.800
0.600
CC
0.400
0.200
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

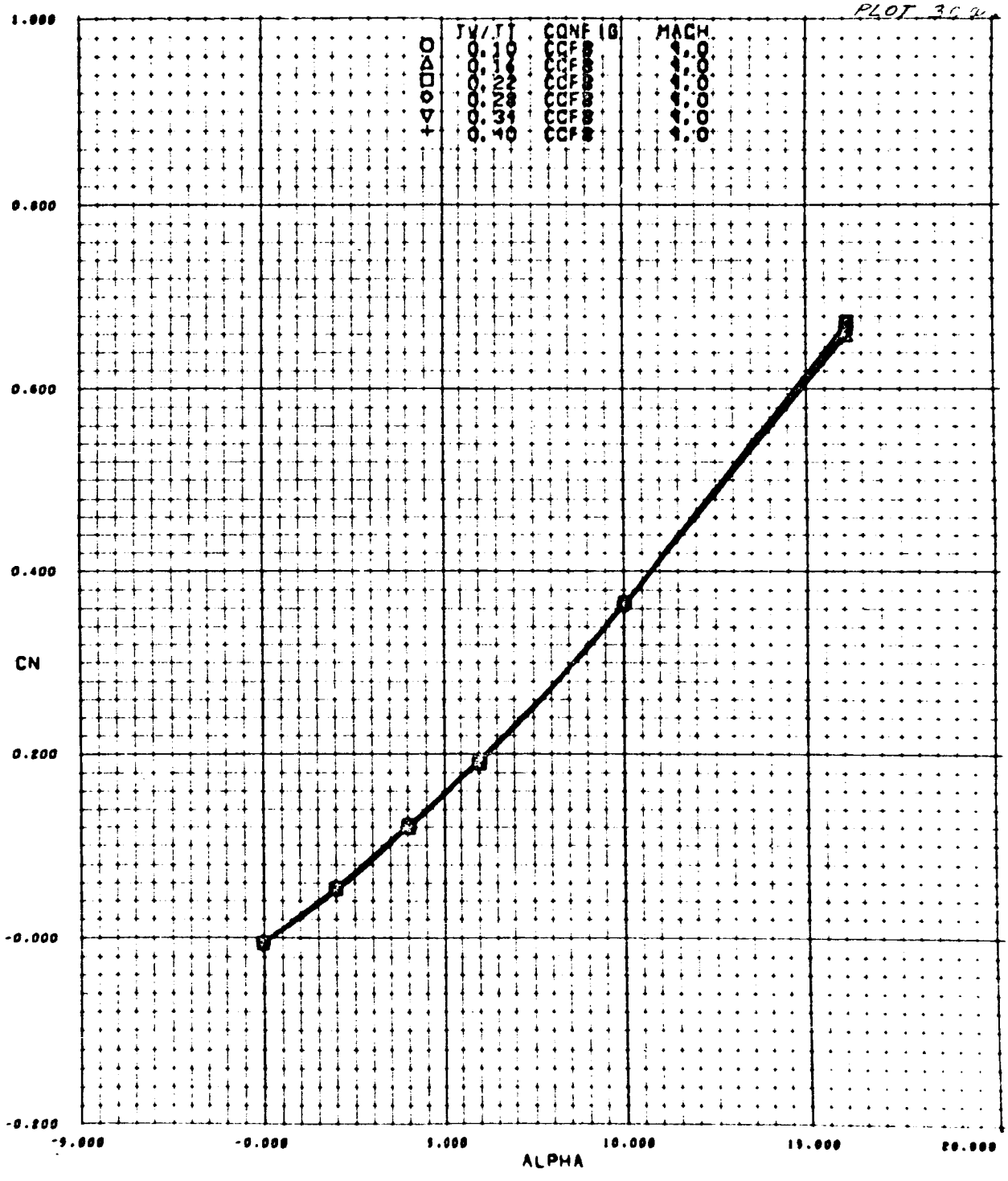
PLOT 29d


1.000
0.800
0.600
0.400
CL
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA
CONFIG
MACH
0.10 M4
0.16 M4
0.22 M4
0.28 M4
0.34 M4
0.40 M4
0.0
0.0
0.0
0.0
0.0
0.0

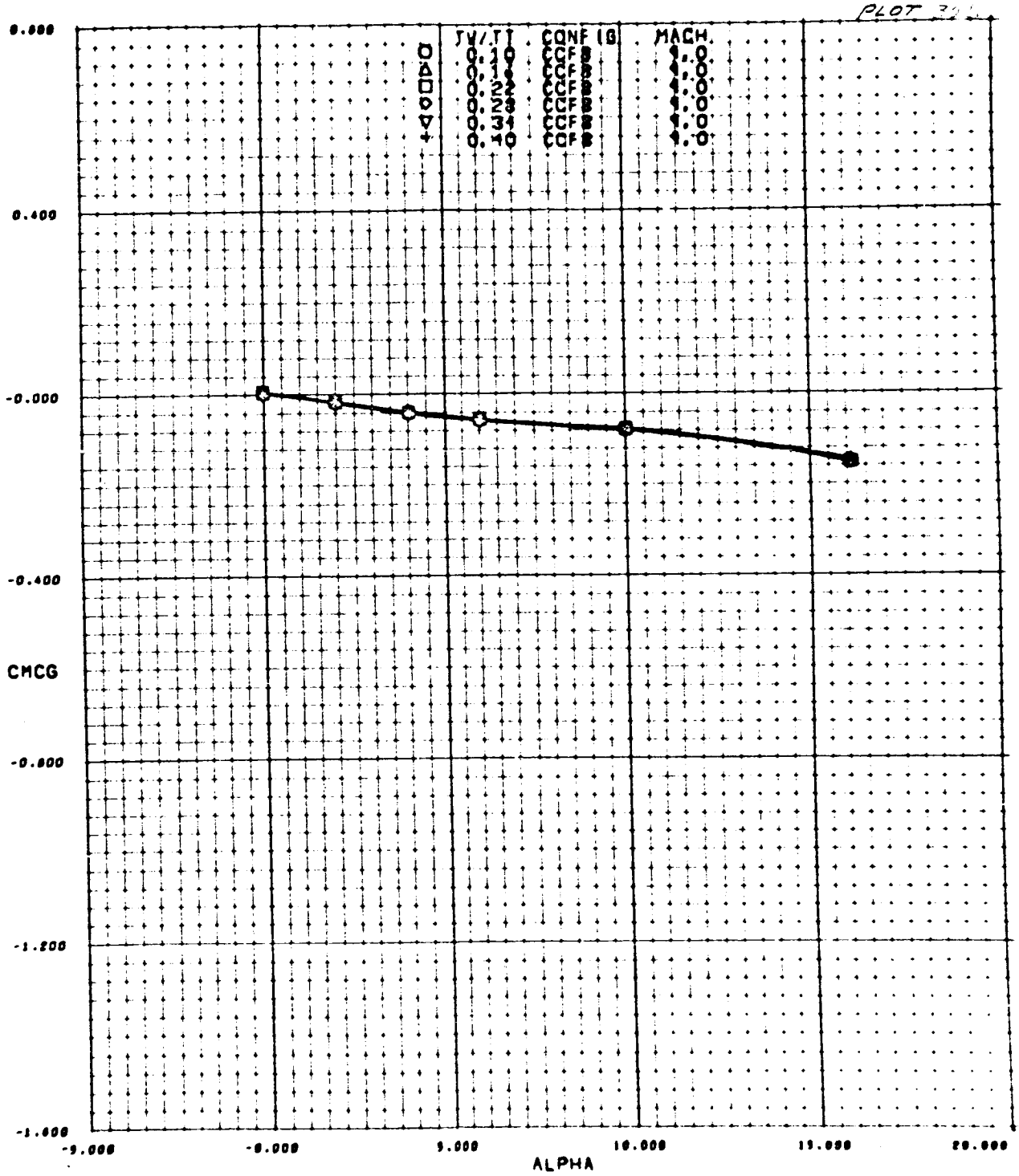
PLOT 29

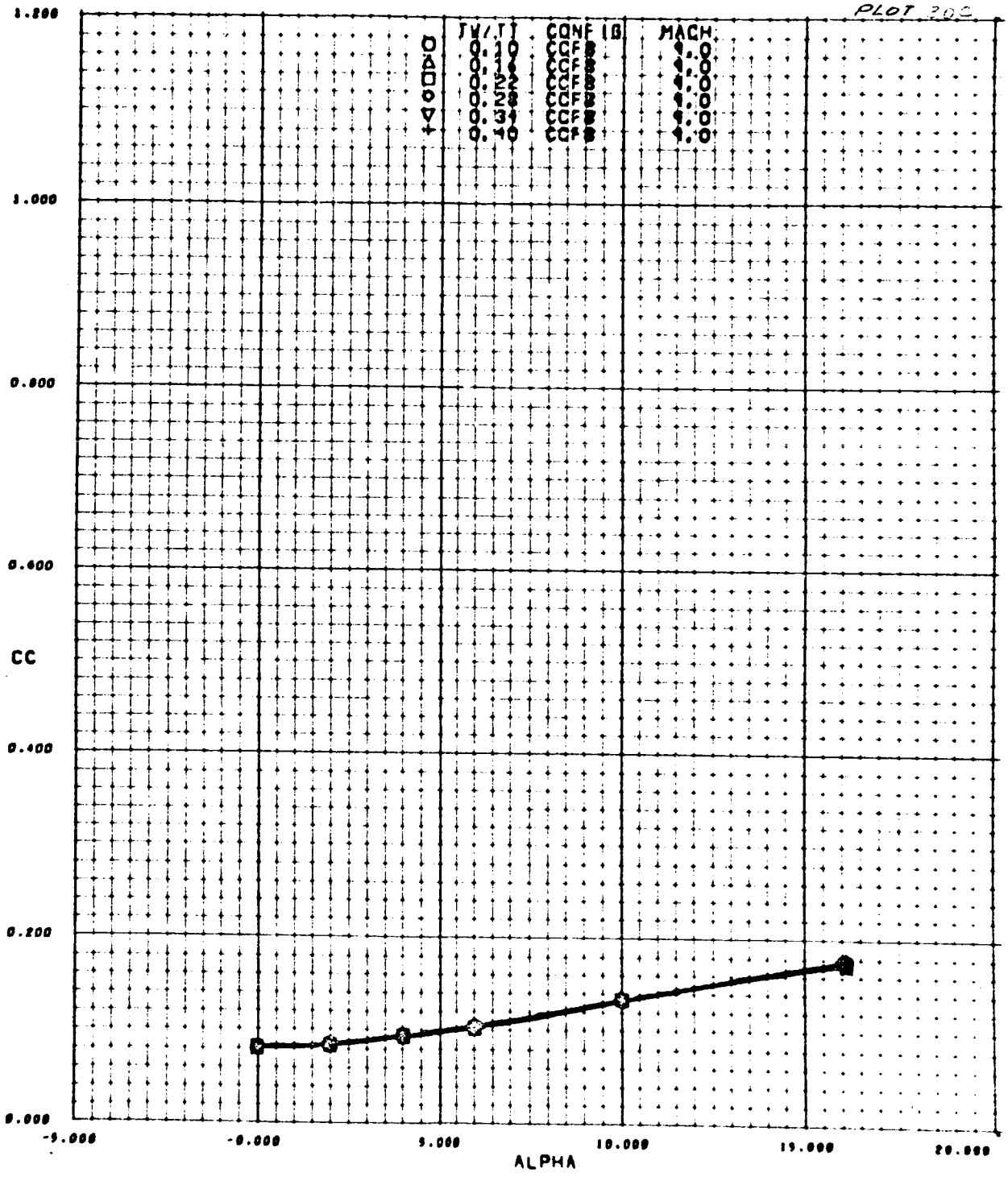

2.000
1.600
1.200
0.800
0.400
-0.000
-0.400
CD
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA
JW/JT
CONFIG
MACH
0.10 M4 1.00
0.14 M4 1.00
0.22 M4 1.00
0.26 M4 1.00
0.31 M4 1.00
0.40 M4 1.00

PLOT 30a

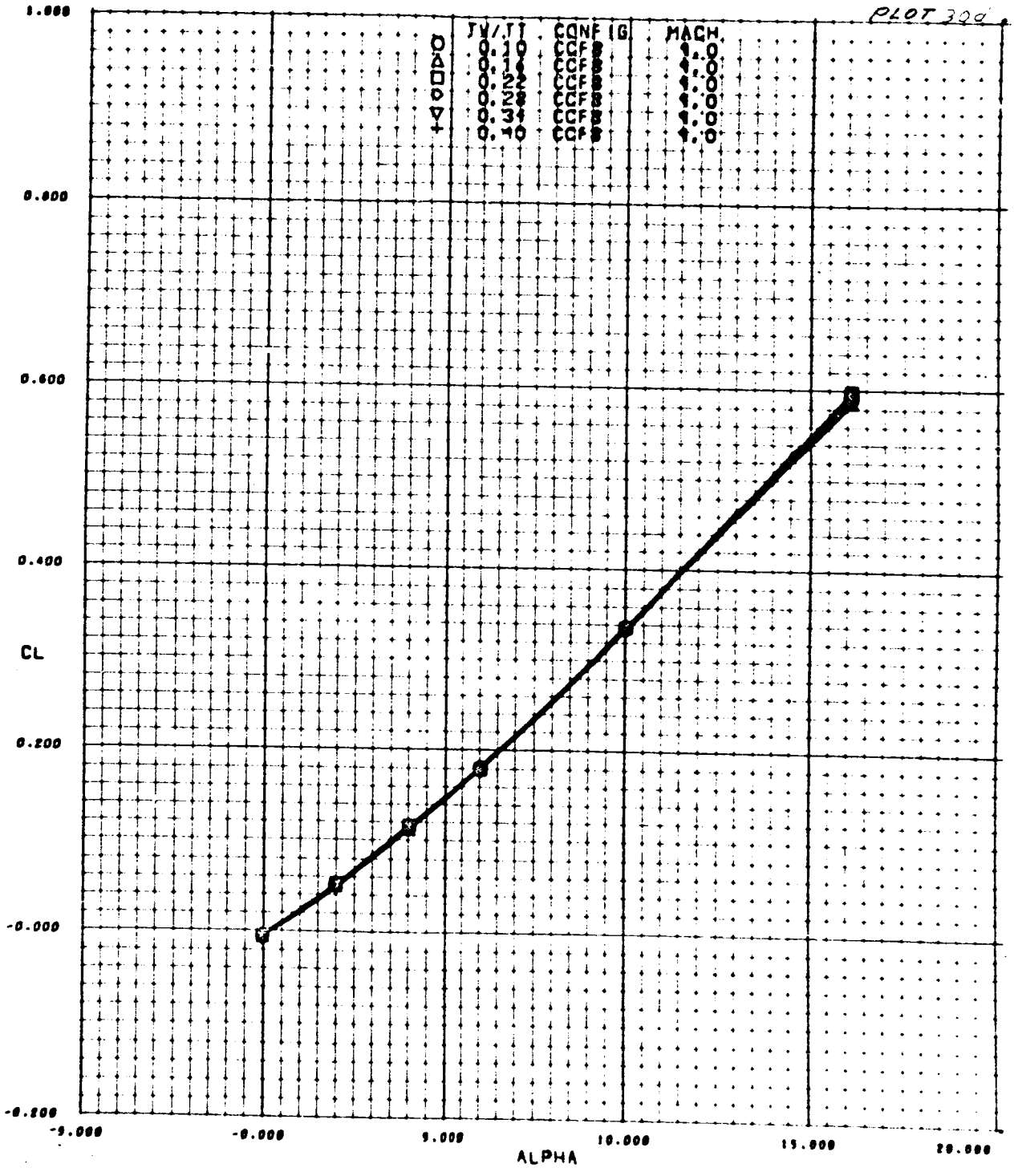

1.000
0.800
0.600
0.400
CN
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA
MACH
CONFIG
TW/T

PLOT 3[illegible]

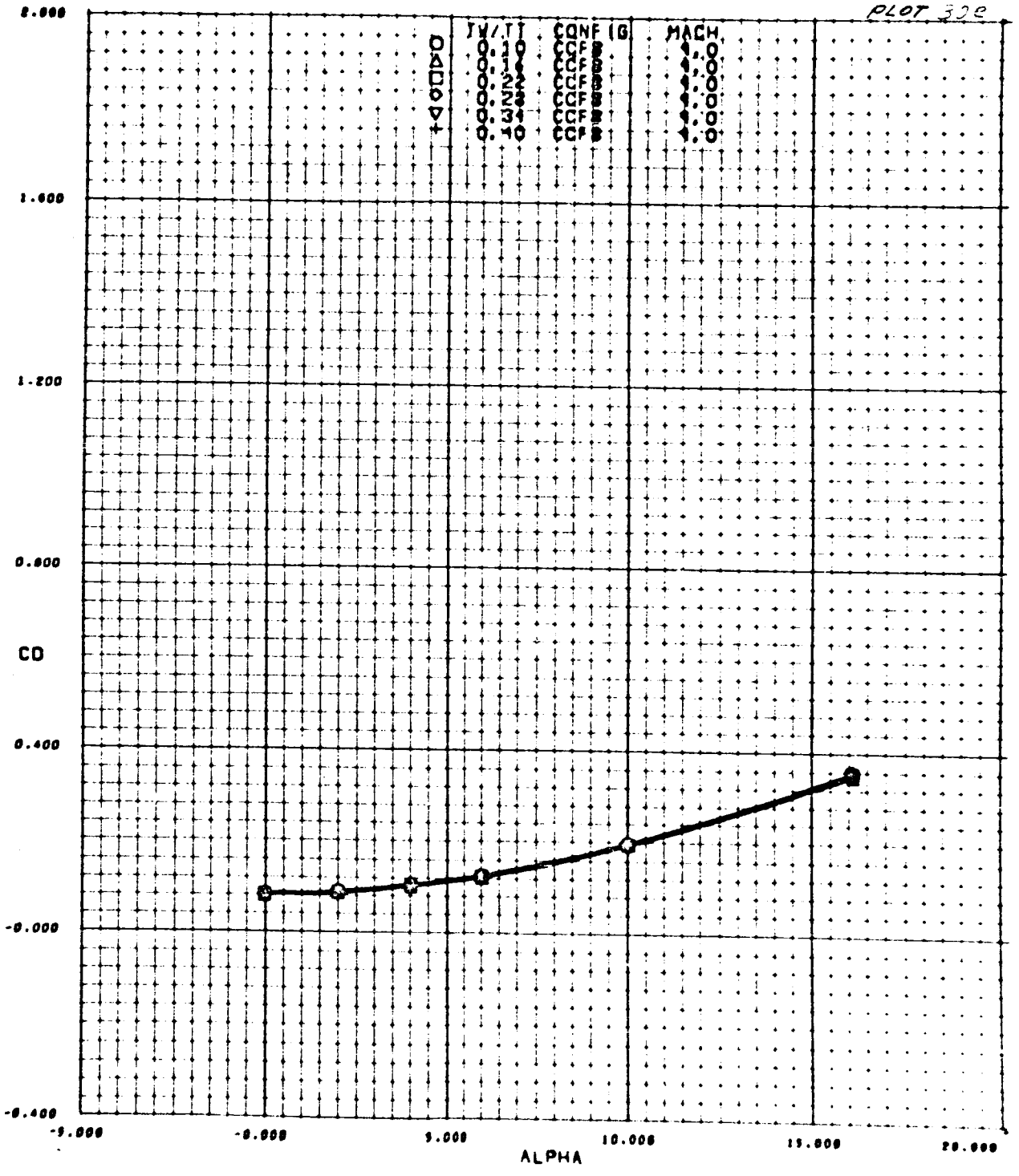

0.800
0.400
-0.000
-0.400
-0.800
-1.200
-1.600
CMCG
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA
DATA
TW/TI
CONFIG
MACH
0.10
0.12
0.23
0.28
0.31
0.40
1.0
1.0
1.0
1.0
1.0
1.0


PLOT 20C
CONFIG
MACH
1.200
1.000
0.800
0.600
CC
0.400
0.200
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

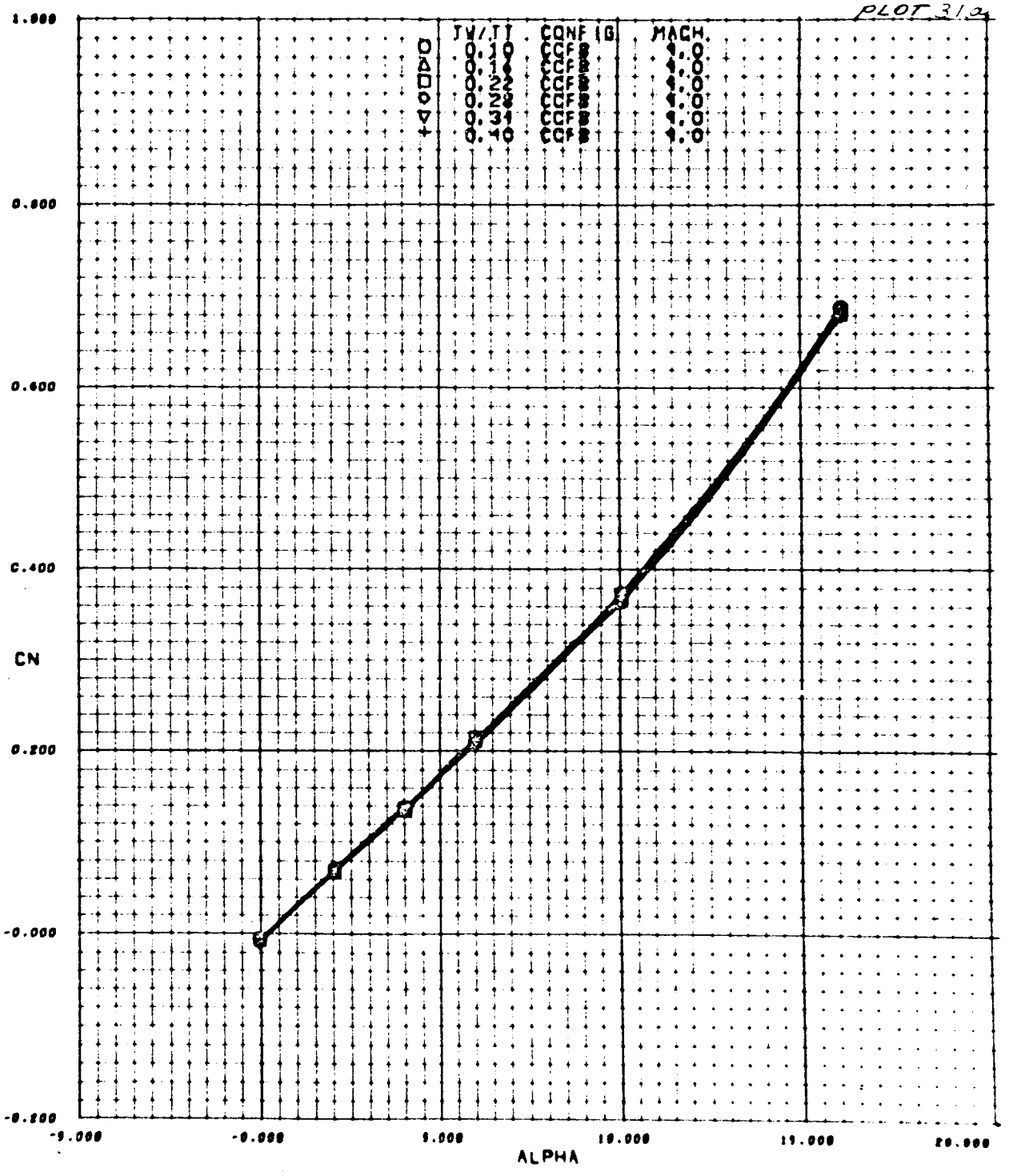
141


PLOT 309
TW/TI CONFIG MACH
0.10 CCF 1.000
0.22 CCF 1.000
0.28 CCF 1.000
0.34 CCF 1.000
0.40 CCF 1.0
1.000
0.800
0.600
0.400
CL
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

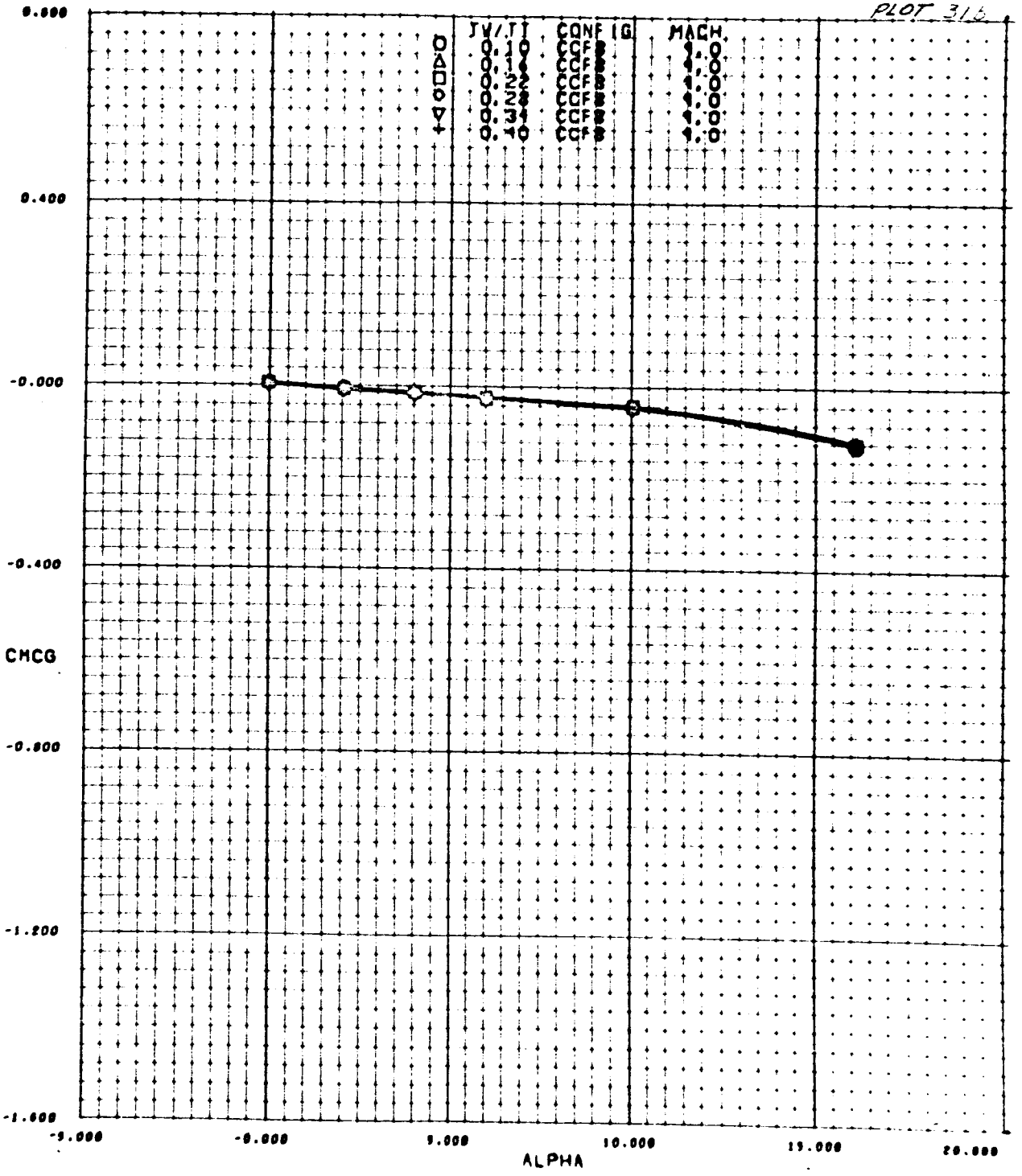
PLOT 32e


2.000
1.600
1.200
0.800
CD
0.400
-0.000
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA
MACH
CONFIG
M/T

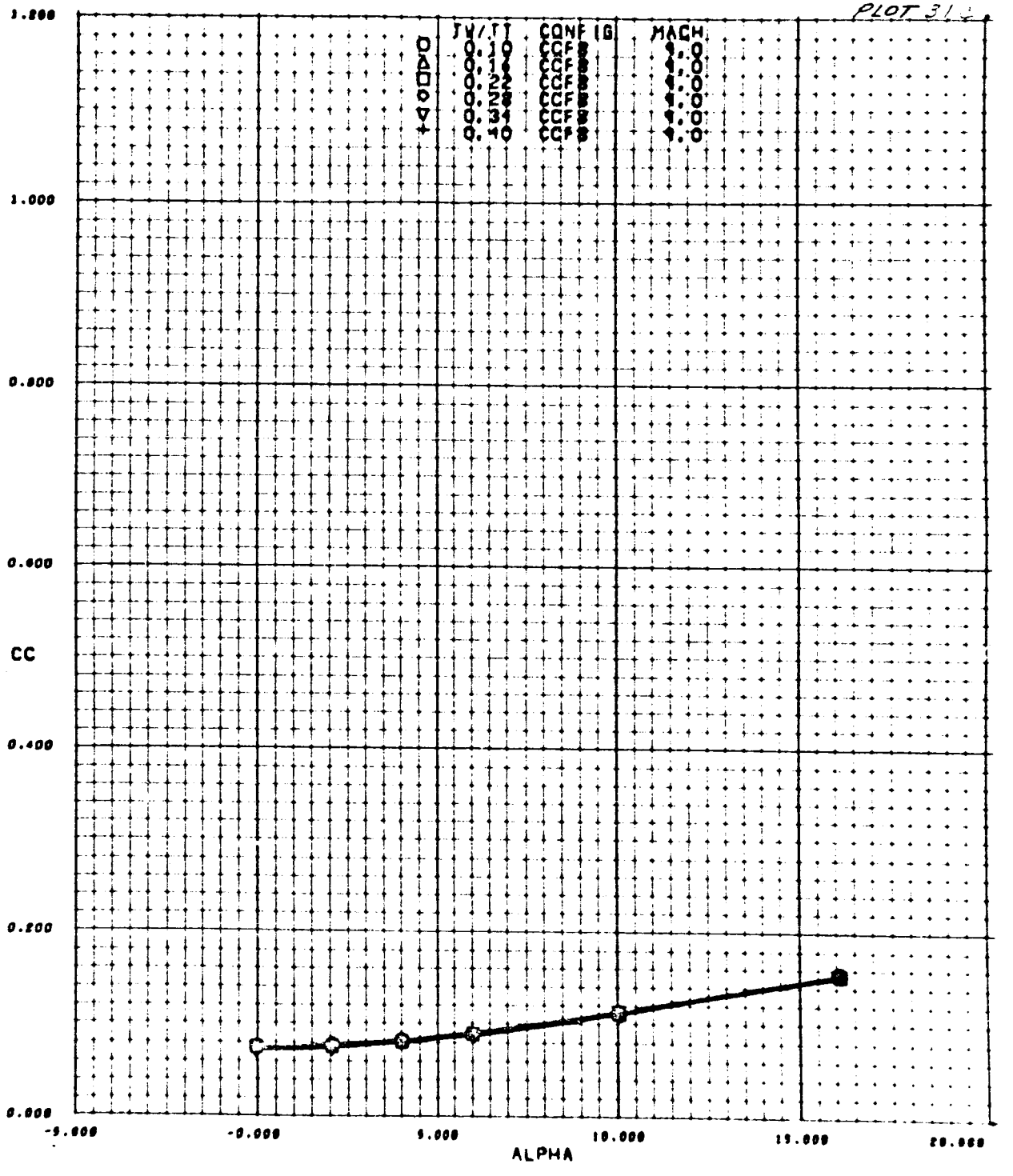
PLOT 3/3

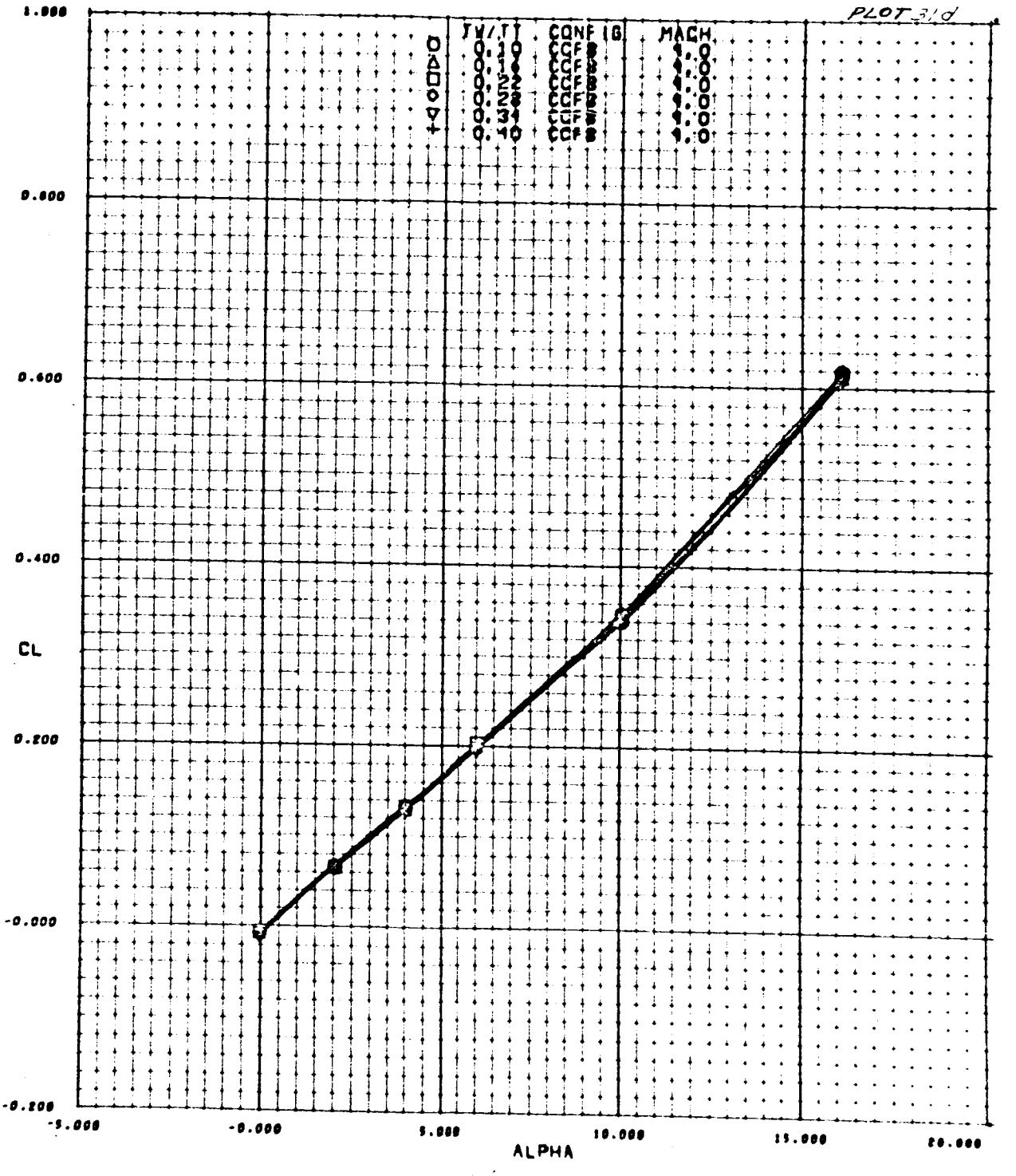

1.000
0.800
0.600
0.400
CN
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA
DADO7+
JW/JT
CONFIG
MACH
1.000

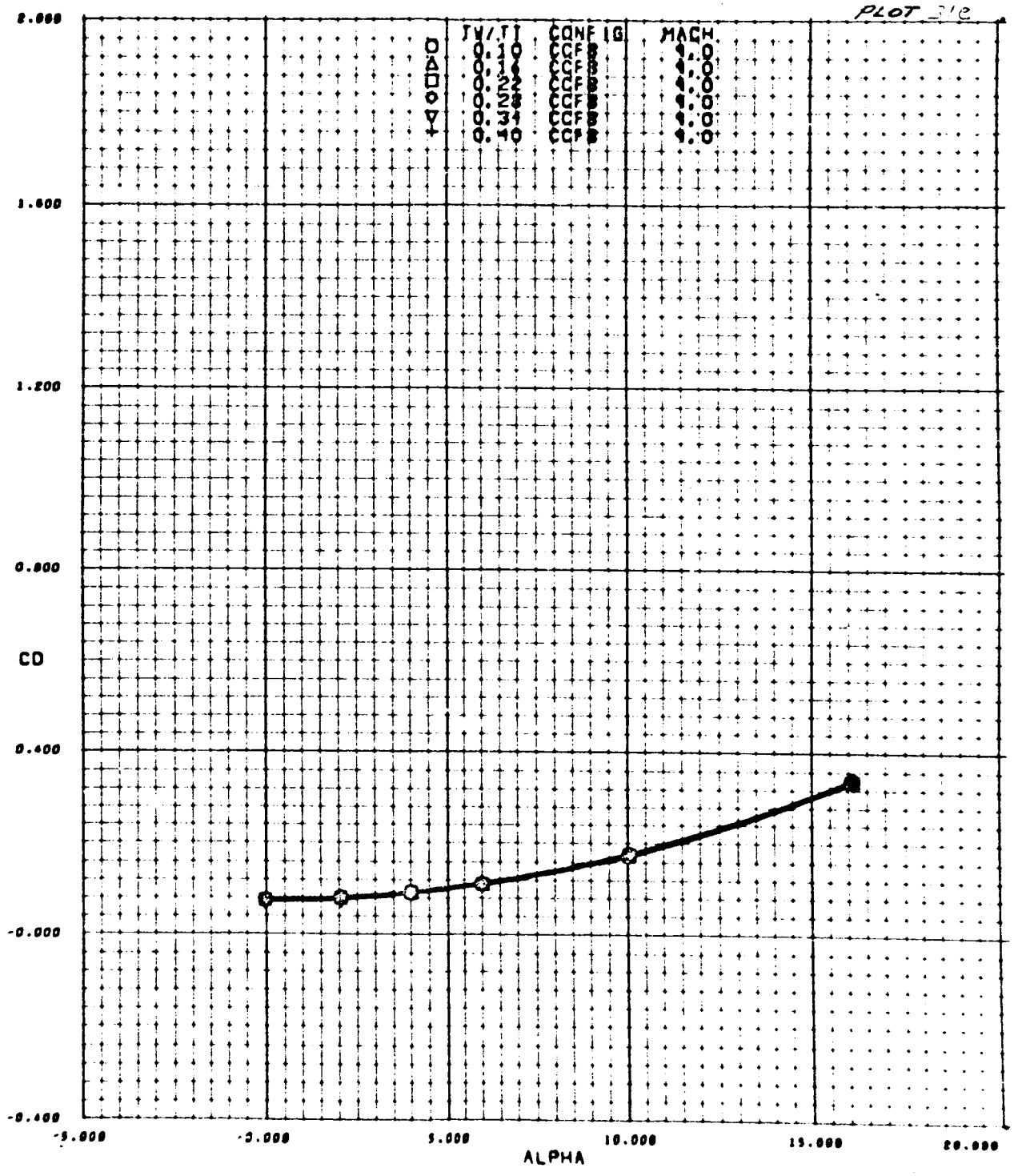
PLOT 316


0.800
0.400
-0.000
-0.400
-0.800
-1.200
-1.600
CMCG
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA
MACH.
CONFIG

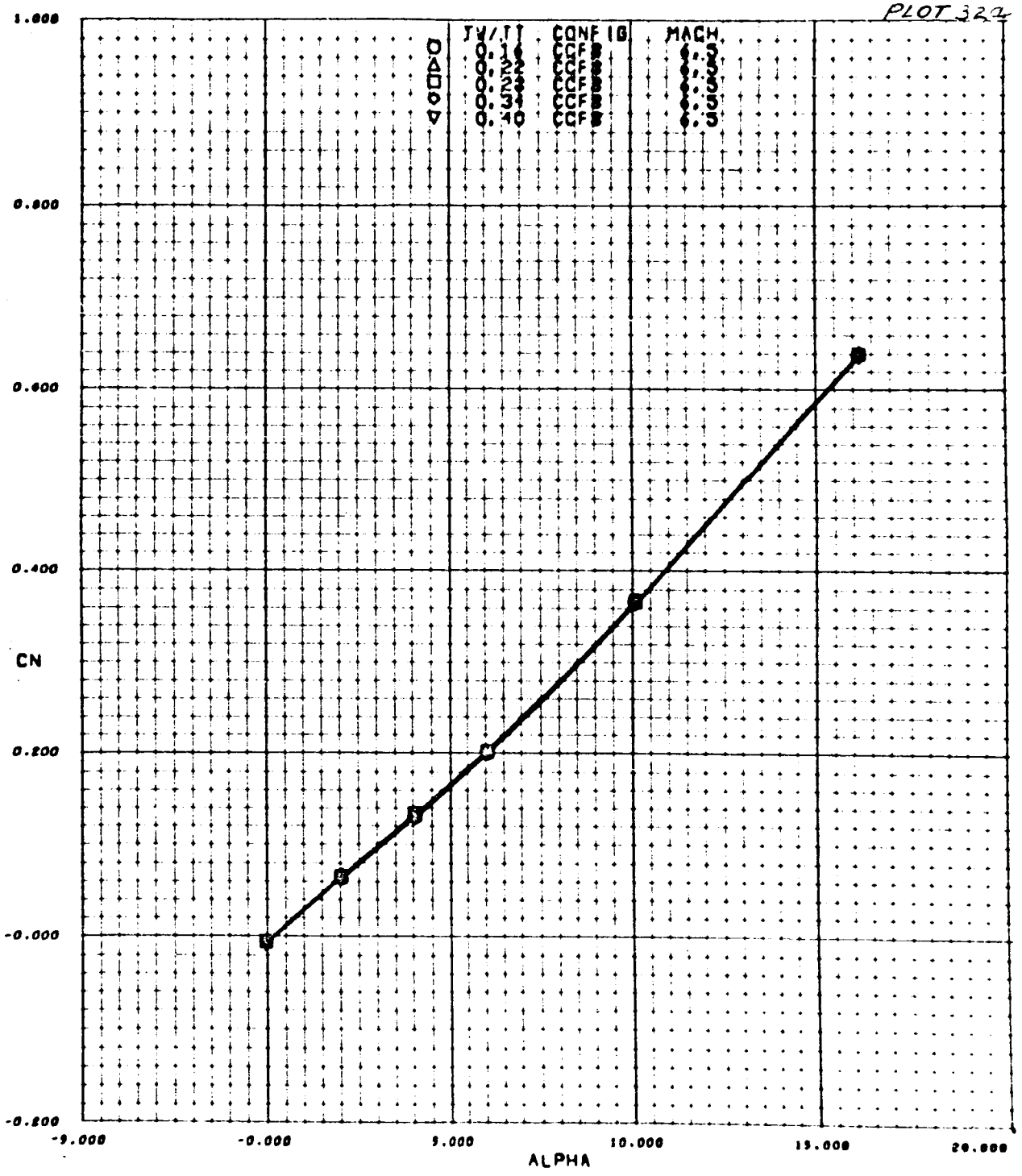
PLOT 31


1.200
1.000
0.800
0.600
CC
0.400
0.200
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA
DATA
CONFIG
MACH


PLOT 31d
1.000
0.800
0.600
0.400
0.200
-0.000
-0.200
CL
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA
MACH
CONFIG

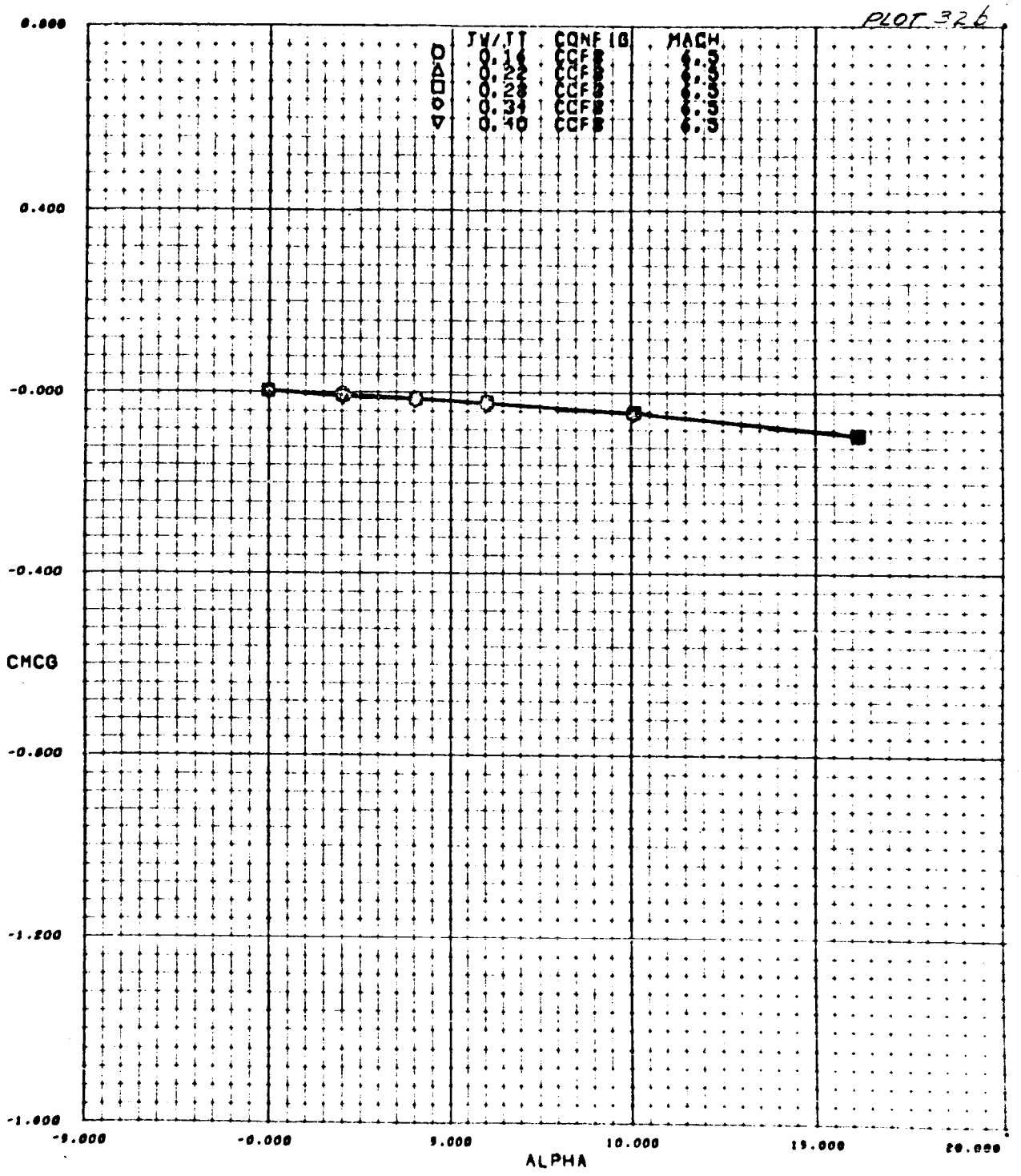

PLOT 216
DADOY
TW/T
CONFIG
MACH
2.000
1.600
1.200
0.800
CD
0.400
-0.000
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 324

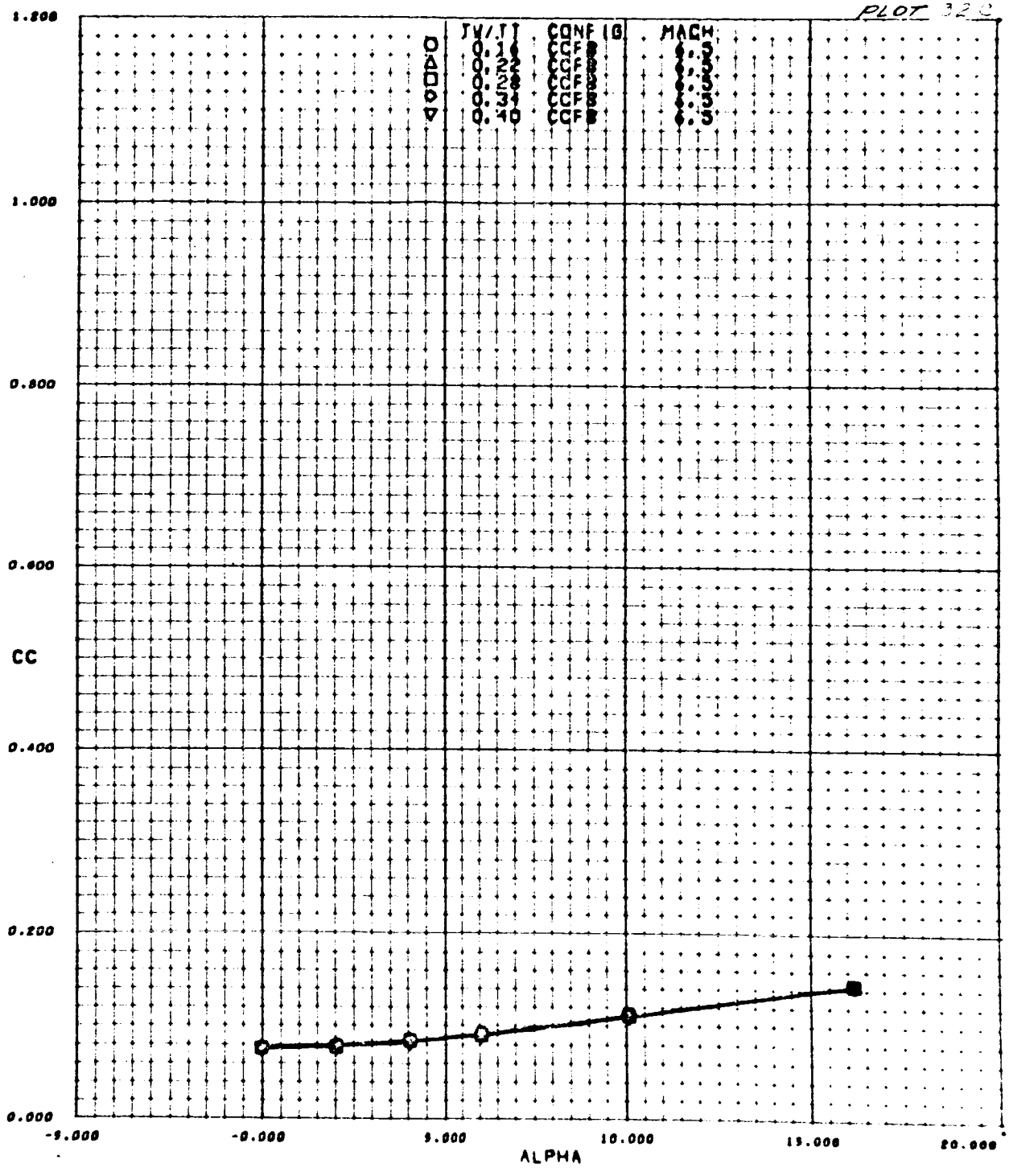

1.000
0.800
0.600
0.400
CN
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA
MACH

156

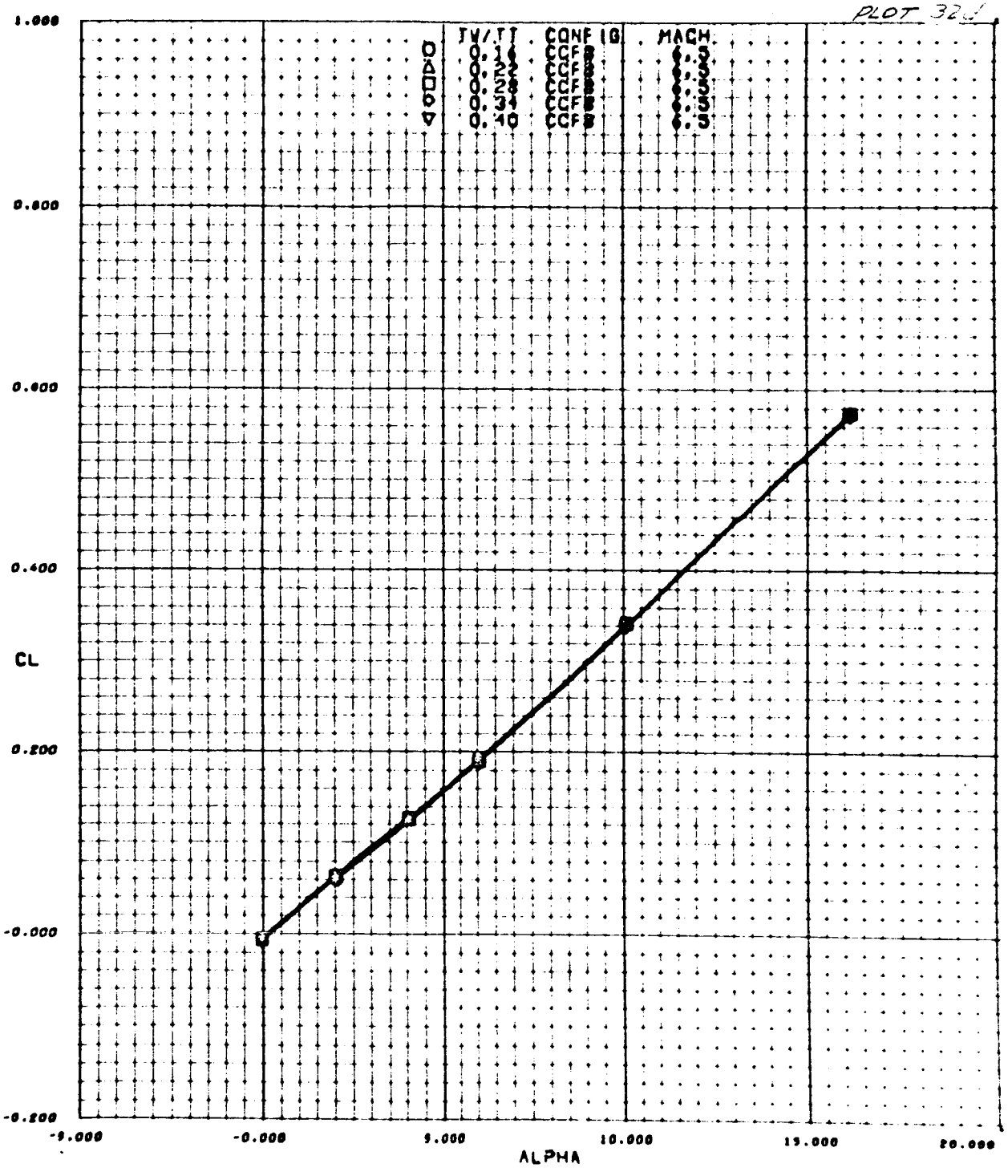
PLOT 326


0.800
0.400
-0.000
-0.400
-0.800
-1.200
-1.600
CMCG
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA
CONFIG
MACH

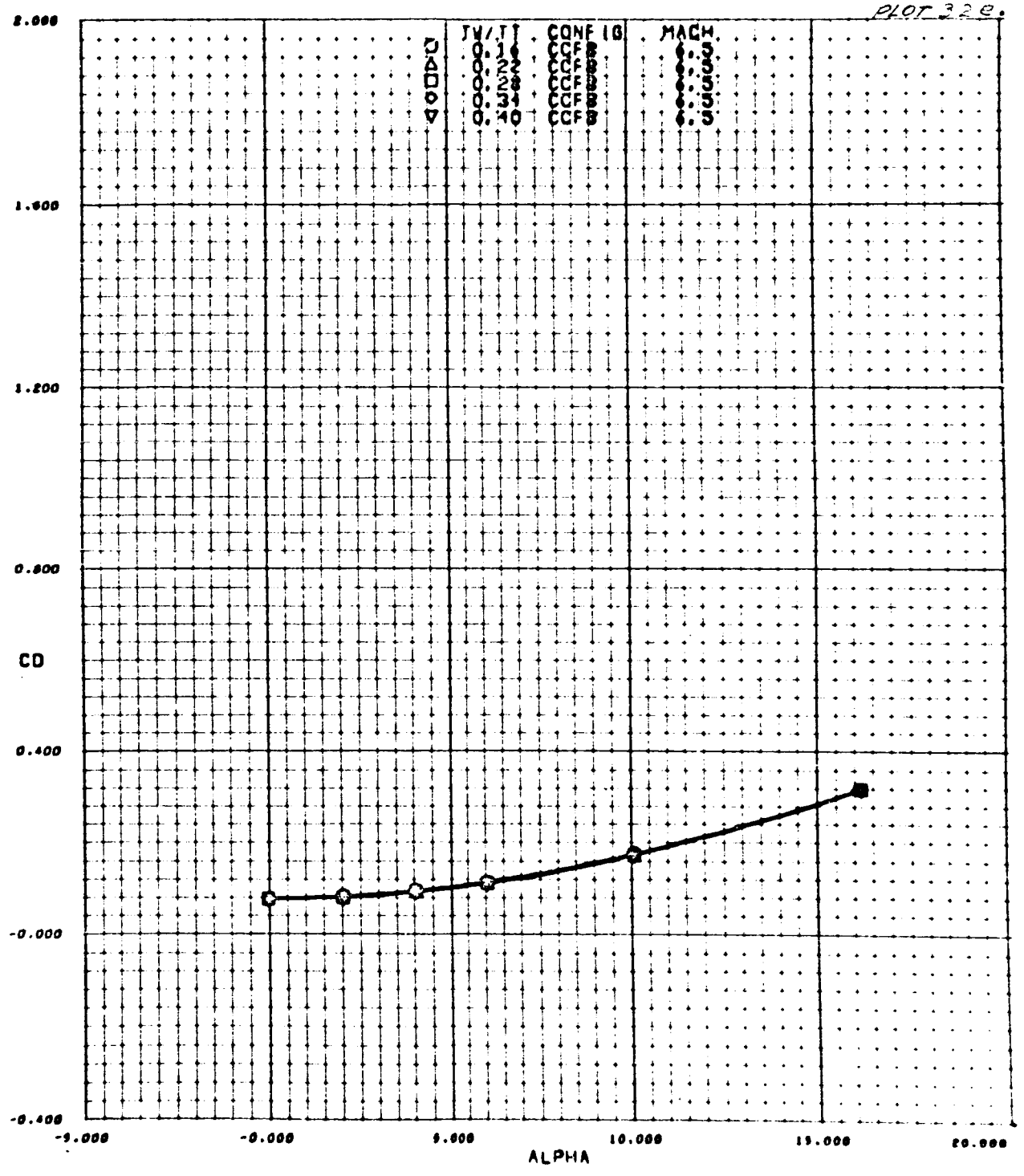
PLOT 32C

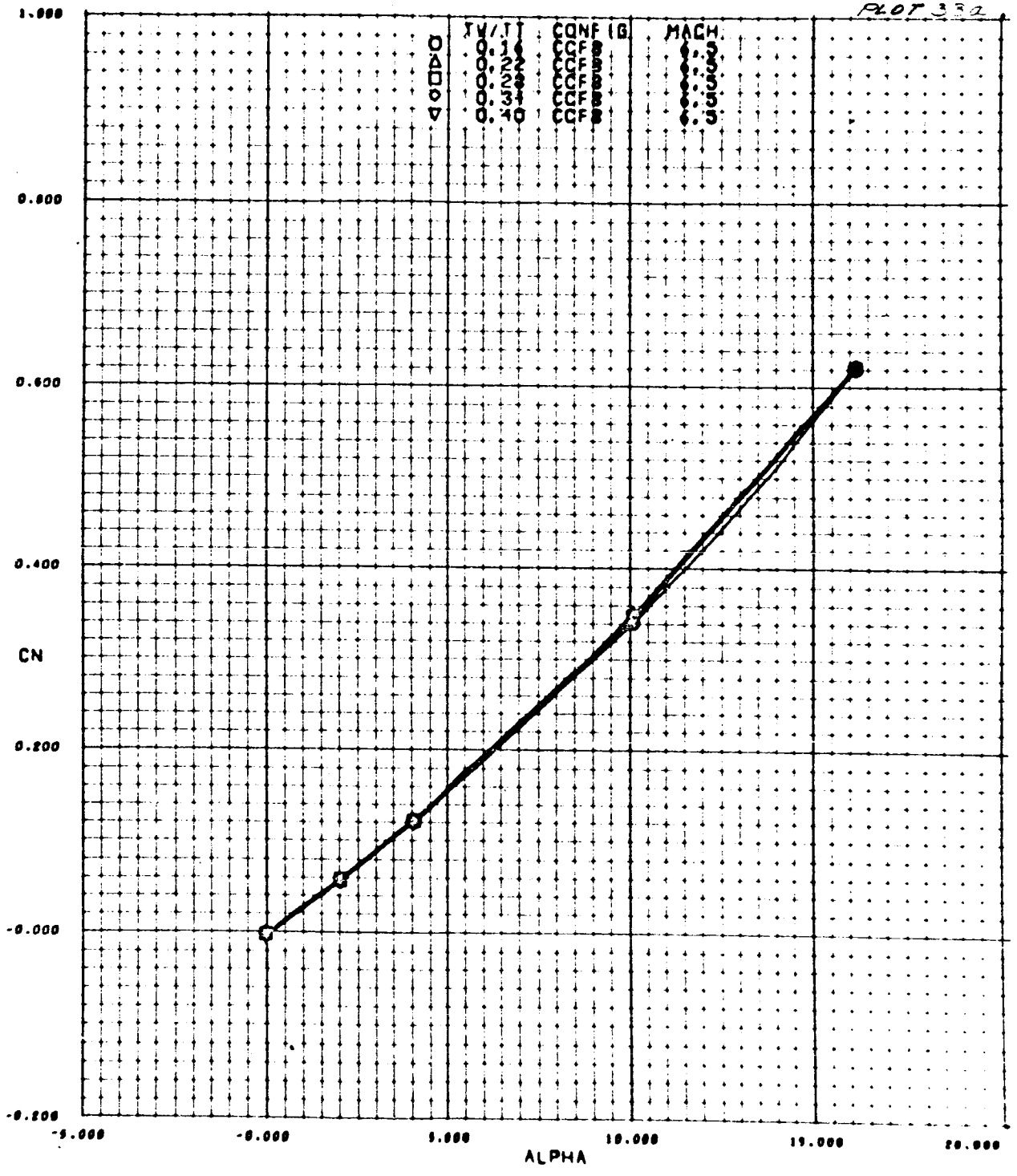

1.200
1.000
0.800
0.600
CC
0.400
0.200
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA
DELTA
TW/T
CONFIG
MACH

PLOT 324

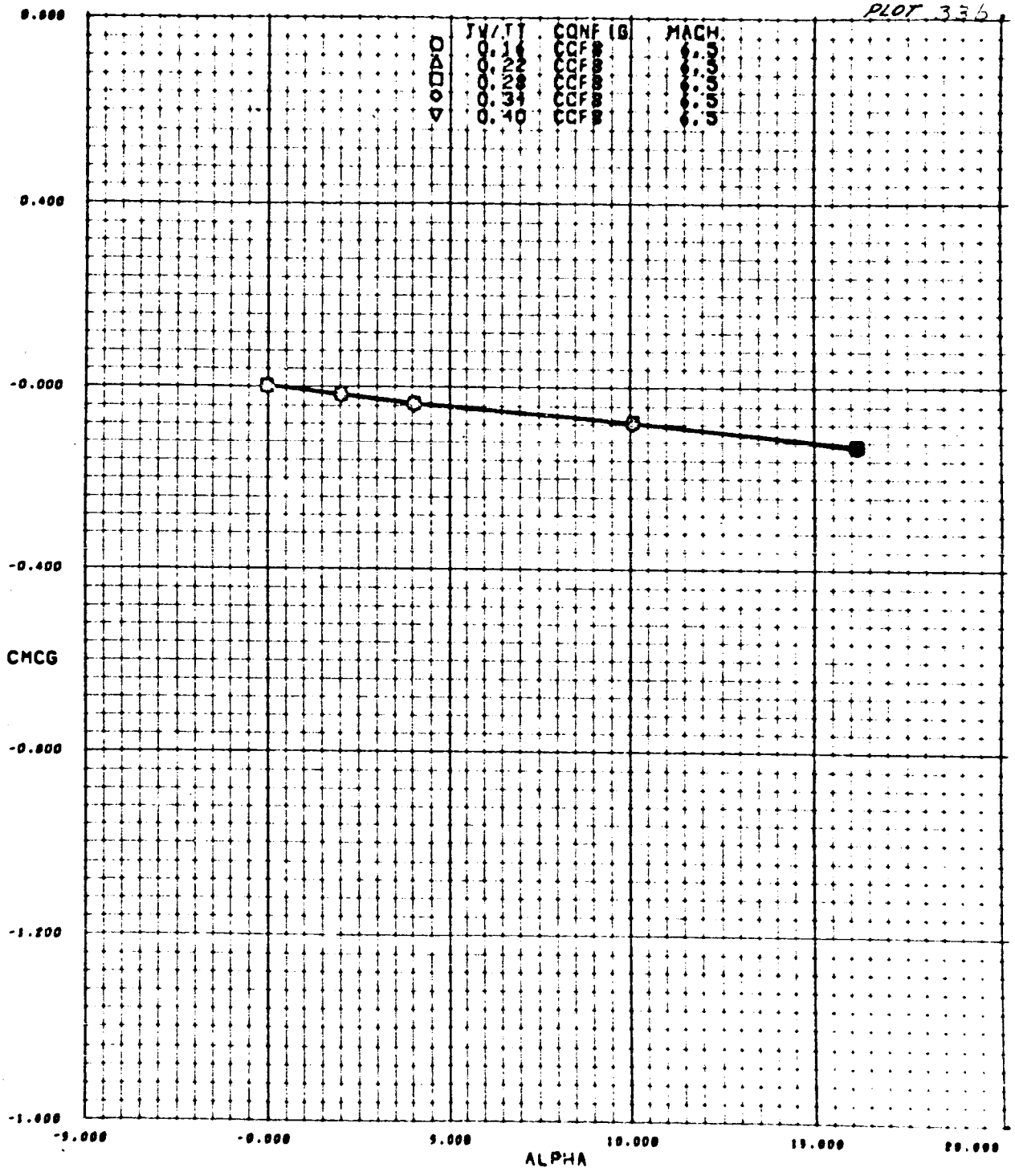

1.000
0.800
0.600
0.400
CL
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA
CONFIG
MACH

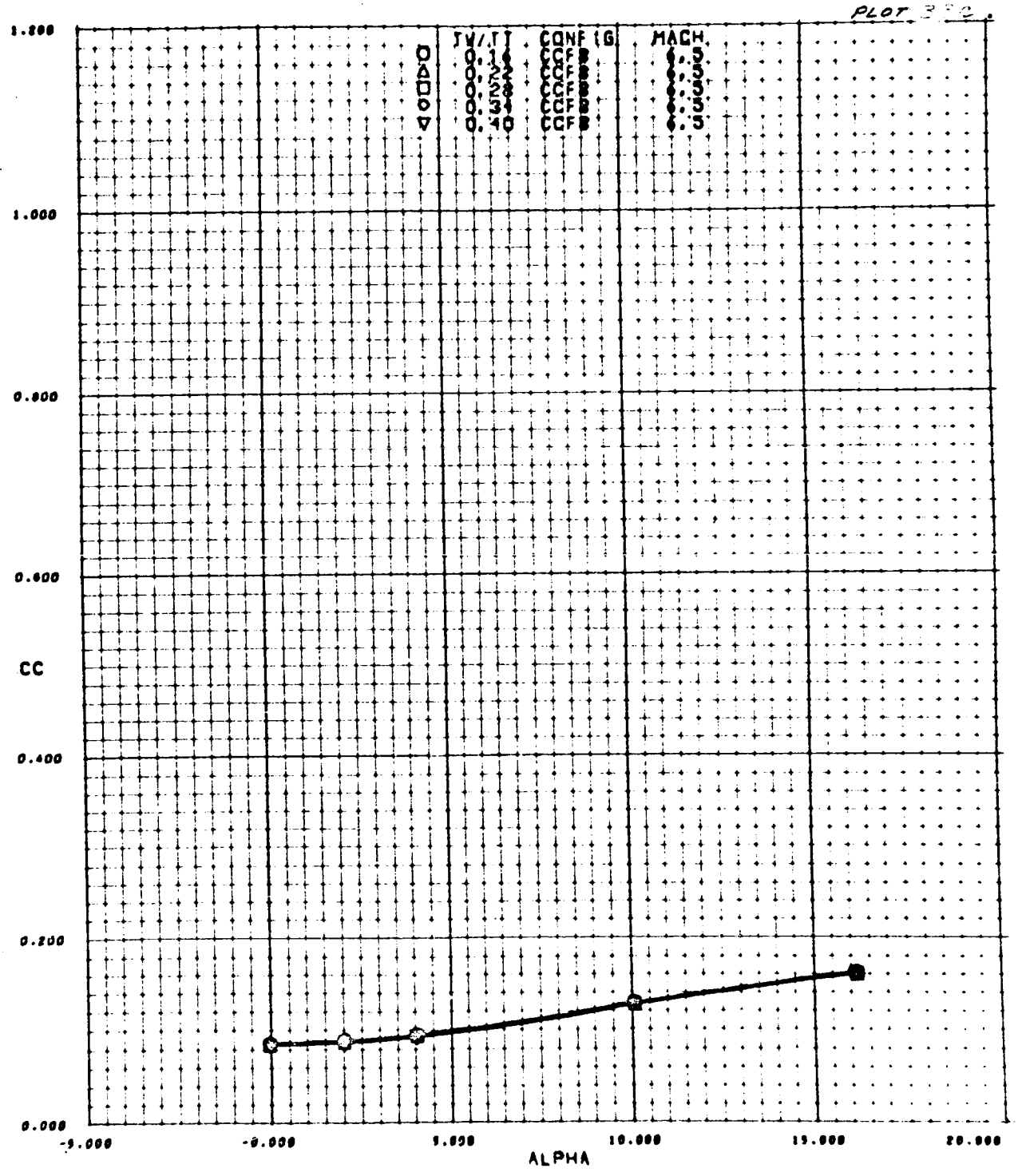
PLOT 22e.


CD
ALPHA
2.000
1.600
1.200
0.800
0.400
-0.000
-0.400
-5.000
-0.000
5.000
10.000
15.000
20.000
CONFIG
MACH

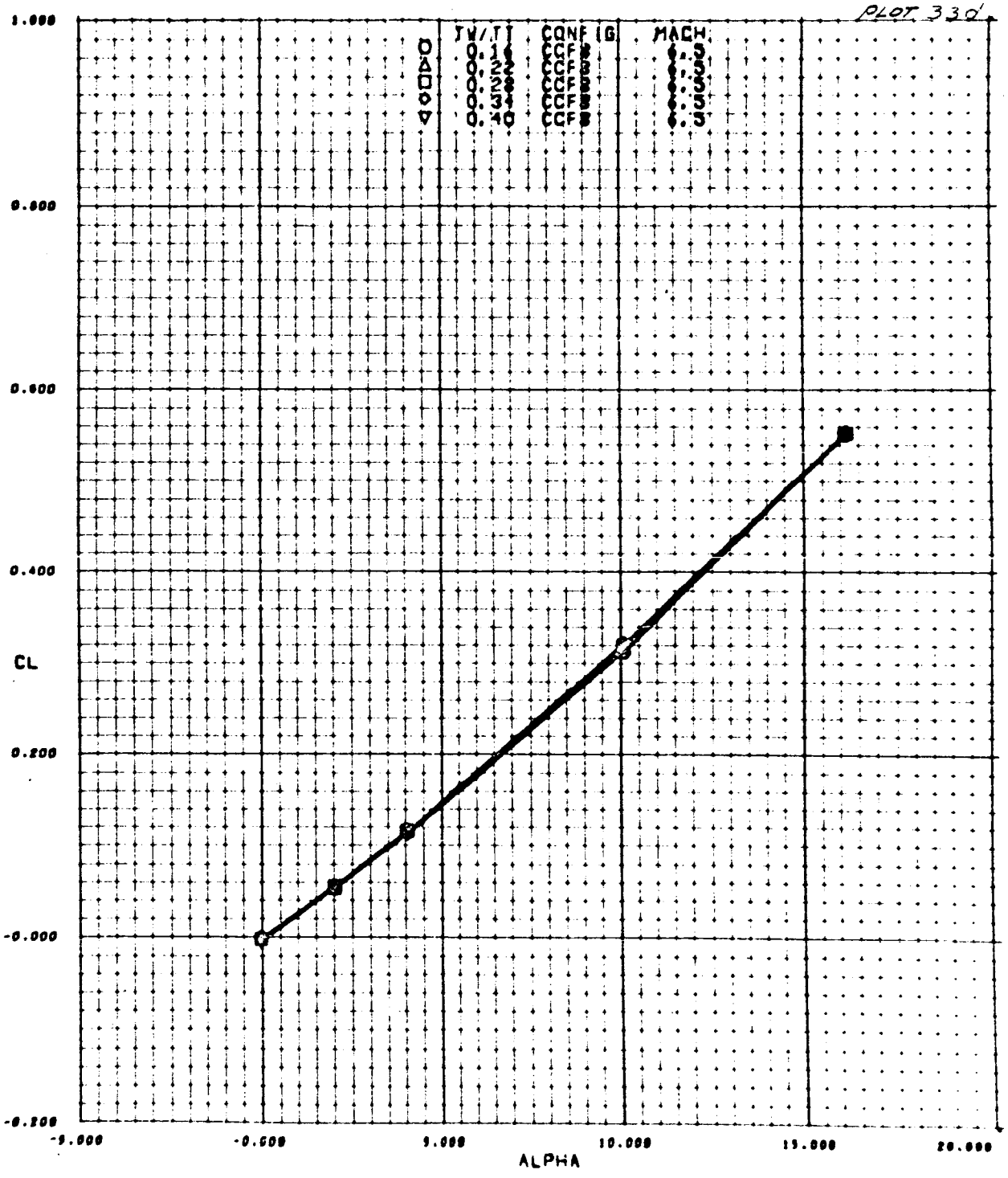

PLOT 332
TV/T
0.10
0.20
0.30
0.40
CONFIG
CCF
MACH
1.000
0.800
0.600
0.400
0.200
-0.000
-0.200
CN
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 336

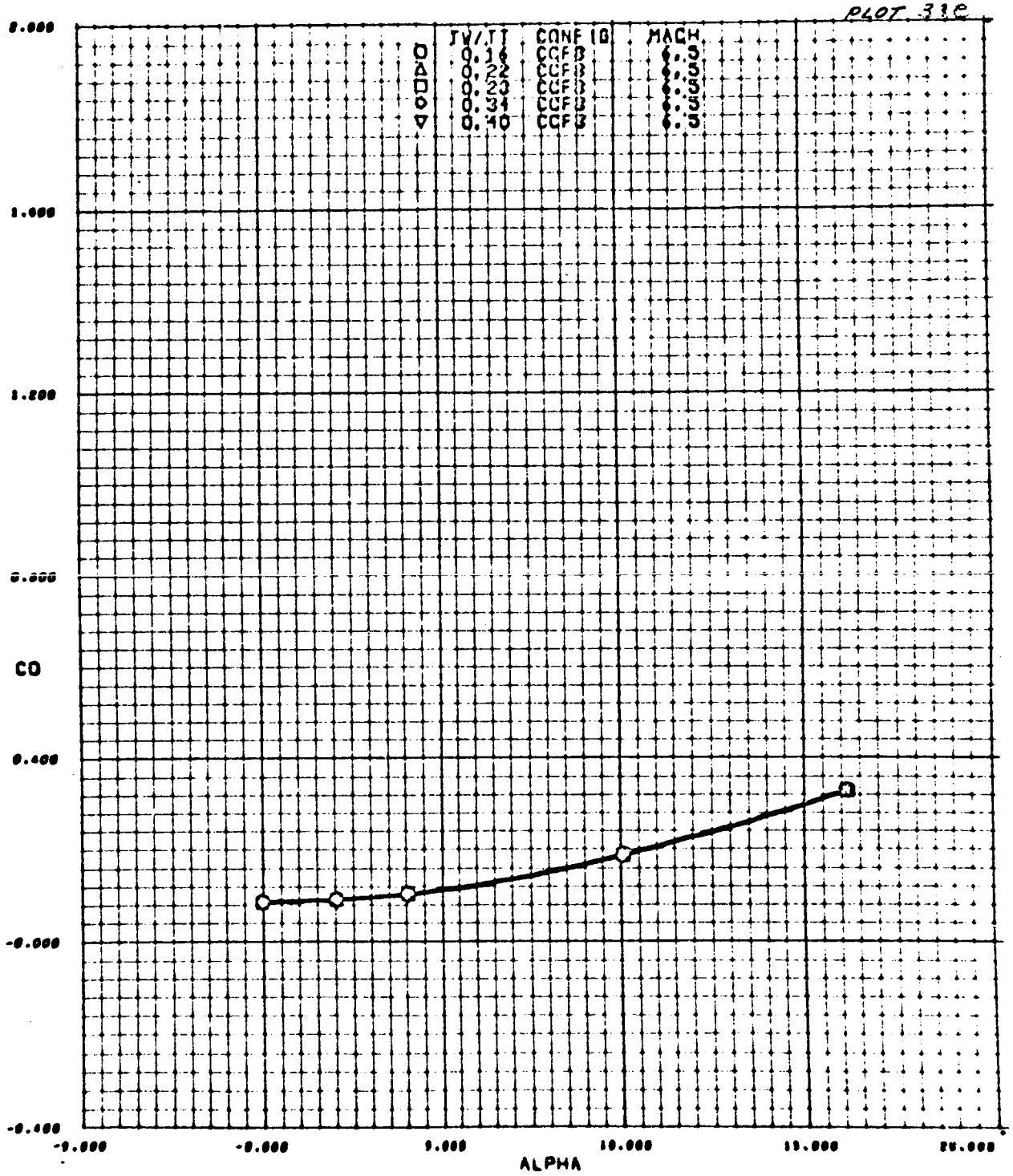

0.800
0.400
-0.000
-0.400
-0.800
-1.200
-1.600
CMCG
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA
TW/TT
CONFIG
MACH


PLOT
CONFIG
MACH
1.200
1.000
0.800
0.600
CC
0.400
0.200
0.000
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA

PLOT 330


1.000
0.800
0.600
0.400
CL
0.200
-0.000
-0.200
-5.000
-0.000
5.000
10.000
15.000
20.000
ALPHA
MACH
CONFIG
TW/T
0.00
0.00
0.00
0.00
0.00
1
2
3
4
0
0
0

PLOT 31C


TW/TI
0.16
0.22
0.28
0.34
0.40
CONFIG
CCFB
CCFB
CCFB
CCFB
CCFB
MACH
.8
.85
.9
.95
1.0
CD
ALPHA

165